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**TESIS DOCTORAL**

**The economic and financial viability of  
sheltered employment centers**

**La viabilidad económico-financiera de los  
centros especiales de empleo**

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**THE ECONOMIC AND FINANCIAL VIABILITY OF  
SHELTERED EMPLOYMENT CENTERS**

**LA VIABILIDAD ECONÓMICO-FINANCIERA DE LOS  
CENTROS ESPECIALES DE EMPLEO**

**Ph.D. Dissertation**

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## ÍNDICE

Abstract.....	1
Resumen .....	4
<b>Introdaction .....</b>	<b>7</b>
<b>Capítulo 1. Análisis económico-financiero de los Centros Especiales de Empleo de España.....</b>	<b>13</b>
1. Introducción del capítulo .....	13
2. Antecedentes. La importancia de los CEEs en la sociedad .....	16
3. Análisis descriptivo de los CEEs de toda España .....	18
4. Muestra y metodología del estudio.....	22
4.1. Muestra .....	22
4.2. Los ratios contables utilizados .....	24
5. Resultados .....	26
5.1. Ratios de rentabilidad.....	26
5.2. Los ratios de endeudamiento o de estructura financiera.....	27
5.3. Ratios de solvencia a corto/largo plazo.....	29
6. Conclusiones .....	30
Bibliografía Específica .....	32
<b>Capítulo 2. Patrones de Supervivencia para la Gestión de los Centros Especiales de Empleo .....</b>	<b>35</b>
1. Introducción del Capítulo .....	35
2. Los CEEs y su Viabilidad: Indicador Z-SCORE .....	37
3. Pregunta de la investigación, Variables, Metodología y Muestra .....	40
3.1. Pregunta de investigación y variables .....	40



3.2. <i>Metodología: algoritmo C4.5</i> .....	42
3.3. <i>Muestra</i> .....	43
4. Resultados y Discusión .....	46
5. Implicaciones para la Gestión de los CEEs .....	50
Bibliografía específica .....	51
 <b>Capítulo 3. The Profitability of Socially Responsible Companies: Public Subsidies for Sheltered Employment Centers</b> .....	<b>55</b>
1. Introduction to the chapter .....	55
2. Subjects and Methods .....	57
3. Results and discussion .....	60
4. Conclusions .....	63
Specific Bibliography .....	64
 <b>Capítulo 4. Economic and Financial Viability of a Particular Case of Social Firms: Sheltered Employment Centers</b> .....	<b>67</b>
1. Introduction to the chapter .....	67
2. Literature review .....	68
2.1. <i>Firms' viability</i> .....	68
2.2. <i>Sheltered workshop and CEEs in Spain: literature review</i> .....	70
3. Research questions .....	71
4. Sample, variables and methodology section .....	72
4.1. <i>Sample and data collection</i> .....	72
4.2. <i>Variables</i> .....	73
4.3. <i>Methodology</i> .....	75
5. Results and discussion .....	75
6. Conclusions .....	80

Specific Bibliography .....	82
<b>Chapter 5. Economic and Financial Viability of Sheltered Employment Centres</b>	
<b>Through their Managers: Is their level of professionalization an explanatory variable of their profitability? .....</b>	<b>89</b>
1. Introduction to the chapter .....	89
2. Employment and disability: Sheltered Employment Centers .....	92
3. Reasons for professionalizing managers. Literature review about companies' professionalization.....	95
4. Professionalization of managers: Literature review .....	101
4.1. <i>Concept and utility of the model of managerial competences</i> .....	101
4.2. <i>Different models of managerial competences</i> .....	103
5. Hypothesis, sample and evaluation methodology of the survey .....	109
5.1. <i>Presentation of research question and hypothesis</i> .....	109
5.2. <i>Sample</i> .....	110
5.3. <i>Analysis of the survey and methodology</i> .....	111
6. Results and discussion .....	113
6.1. <i>Descriptive analysis</i> .....	113
6.2. <i>Professionalization index</i> .....	122
7. Conclusions .....	127
8. Annex.....	130
Specific Bibliography .....	131
<b>Capítulo 6. Social Entrepreneurship in Sheltered Employment Centers: A Case Study of Business Success .....</b>	<b>139</b>
1. Introduction to the chapter .....	139
2. Literature Review .....	141

2.1. Social entrepreneurship .....	141
2.2. Sheltered employment centers.....	144
3. The Empirical Study .....	146
3.1. <i>Data and variables</i> .....	146
3.2. <i>Methodology</i> .....	151
3.2. 1. <i>Analysis of financial ratios</i> .....	151
3.2.2. <i>Questionnaire</i> .....	153
4. Results and Discussion .....	154
4.1. Results for the ratio analysis (Economic success).....	155
4.2. Return to Public Administration.....	158
4.3. Keys to Success .....	159
5. Practical Lessons .....	163
Specific Bibliography .....	165
<b>Conclusiones finales .....</b>	<b>169</b>
<b>Final Conclusions .....</b>	<b>173</b>
<b>Futuras líneas de investigación: .....</b>	<b>177</b>
<b>Future research lines:.....</b>	<b>179</b>
<b>Bibliografía general.....</b>	<b>180</b>
<b>Legislación consultada .....</b>	<b>185</b>



## LISTA DE TABLAS

### *Capítulo 1*

Tabla 1. Ratios contables analizados.....	26
Tabla 2. Estadísticos Descriptivos de los ratios de rentabilidad. CEEs 2013.....	27
Tabla 3. Estadísticos descriptivos de los ratios de endeudamiento o estructura financiera. CEEs 2013 .....	28
Tabla 4. Estadísticos descriptivos de los ratios de solvencia a largo/corto plazo. CEEs 2013 .....	29

### *Capítulo 2*

Tabla 1. Estadísticos descriptivos .....	45
--	----

### *Capítulo 3*

Table 1. The sheltered employment centers of the Community of Madrid by activity .....	58
Table 2. Variables used in our study .....	59
Table 3. Descriptive statistics .....	61
Table 4. Results of t-test for mean differences .....	61
Table 5. PART results .....	62

### *Capítulo 4*

Table 1. Independent variables .....	74
Table 2. Descriptive Statistics.....	76
Table 3. Correlation.....	77
Table 4. Results of the linear regression.....	79

### *Capítulo 5*

Table 1. Usefulness of the analysis of managerial competences .....	103
---	-----

Table 2: Profile of the managerial competences .....	104
Table 3. Ranking of competences .....	108
Table 4. Index of professionalization .....	124
Table 5. Descriptive.....	125
Table 6. Analysis of Variance .....	127

## ***Capítulo 6***

Table 1: Firms that disappear during their first three years of life (%) .....	148
Table 2. Main figures for the firms .....	150
Table 3. Ratios for years 2011-2010 .....	155
Table 4. Coolaboro's contribution to the State's resources. ....	159

## **LISTA DE GRAFICOS**

### ***Capítulo 1***

Grafico 1. CEEs por Comunidades Autónomas 2013 .....	19
Grafico 2. Forma jurídica de los CEEs .....	20
Grafico 3. Los CEEs por actividades 2013 .....	21
Gráfico 4. La distribución de la muestra final por comunidades autónomas .....	23

### ***Capítulo 2***

Grafico 1. Los CEEs por Comunidades Autónomas .....	44
Figura 1. Árbol obtenido con el algoritmo C4.5. ....	47
Figura 2. Sección árbol obtenido con el algoritmo C4.5 para las reglas más fuertes. .....	48

### ***Capítulo 5***

Graph 1. Spanish population with and without disability 2014 .....	93
--	----

Graph 2. Number of persons with disability in sheltered employment centres .....	94
Graph 3. The origin of sheltered employment centre .....	114
Graph 4. External Dimension results: questions about contacts .....	115
Graph 5. External dimension. Differences .....	116
Graph 6. Interpersonal dimension results .....	117
Graph 7. Interpersonal dimensions. Differences .....	117
Graph 8. Personal dimension results .....	118
Graph 9. Personal dimensions. Differences .....	119
Graph 10. Management tools implanted in sheltered employment centres .....	120
Graph 11. Total work experience .....	121
Graph 12. Training in Management .....	122

## ***Capítulo 6***

Figure 1: Entrepreneurial process .....	146
Figure 2: Workforce and Sales of Coolaboro (2004-2014) .....	149
Figure 3. Ratio comparison between a CEE and two non-CEE companies .....	158
Figure 4: Coolaboro's business model .....	161
Figure 5. Managerial Competency Dimensions .....	162

## **Abstract**

The main objective of this thesis is the economic and financial analysis of the Sheltered Employment Centers (CEEs) from Spain. The CEEs are profitable companies that recruit people with disabilities and this fact is their differentiating aspect in relation to other companies in the market. After a depth literature review, we have found that there are few studies about this type of companies and scant information about their economic and financial viability. There are two main theoretical criticisms which underpin the management of these companies: public subsidies are what determine its economic viability and that the poor professionalization of their managers calls into question its profitability in an unprotected market. Based on these two criticisms, this study aims to show whether they are consistent from an empirical point of view. The main objective of this thesis is divided into six specific objectives, which are the following ones:

First objective of this thesis: to study the importance of CEEs for society and especially for people with disabilities. For this, descriptive analysis of CEEs according to their evolution, legal form, location, size and sector of activity are done.

Second objective of this study: to analyse the survival of the CEEs, determining which would be the key variables affecting their survival in a competitive market or on the contrary their failure.

Third objective of the study: to investigate if the profitability of the CEEs depends on public subsidies received for the labour integration of people with disabilities. CEEs with and without public subsidies are evaluated.

Fourth objective of this study: to analyse the economic and financial keys of CEEs using panel data for ten years. Additionally, the impact of the economic crisis on the profitability of CEEs is studied.

Fifth objective of this thesis: to evaluate whether professionalization of the management team of the CEEs is a variable that explains the economic and financial



profitability of these companies. To achieve this goal a questionnaire has been designed specifically for the CEEs management team.

Sixth objective of this research: to examine a CEE as a part of social entrepreneurship and give academic visibility to this type of companies, due to its great contribution to social responsibility. Using the methodology of a case study, a CEE has been analysed in depth.

Taking into account the main objectives mentioned before, this doctoral thesis is organized in the following manner: abstract, general introduction, six chapters, general conclusions, future lines of research and references. Each chapter contains the main objectives that have been previously described. Below a short summary of these six Chapters is presented.

First chapter: It is a detailed review of the literature on the CEEs showing their importance for the society. This study aims to contribute to the academic visibility of these companies that promote the social entrepreneurship and are socially responsible. The objective of this paper is to analyse the economic and financial structure of these firms in Spain.

Second chapter: The objective of this chapter is to analyse the survival of the CEEs, to ascertain the key variables that can condition their continuity in the market, or otherwise, their business failure.

Third chapter: The aim of this study is to test whether the sheltered employment centers which receive public subsidies obtained better profitability (measured as return on assets), on average, than firms that do not receive government subsidies. Additionally, we want to know the key variables that can justify the solvency or not of these special companies.

Fourth chapter: The aim of this paper is twofold: firstly, we want to know the economic and financial situation of all the Sheltered Employment Centres (CEEs) in Spain, using financial data from 2004-2013 and showing which variables explain their viability. Secondly, we want to test the impact of the economic crisis on the profitability of CEEs.

The sample for this research is 990 CEEs, operating during 2004-2013. This data represents 54% of all the CEEs of Spain. To achieve the objective of the research, the correlation table and a linear regression analysis for panel data are made.

Fifth chapter: The objective of this study is to analyse whether the CEEs which have a higher rate of professionalization of the company, have better economic returns than the CEEs which have a lower one. Consequently, the professionalization of the CEEs would be an explanatory variable of their economic and financial viability. However the literature review has shown that there are no studies on professionalization of the CEEs, but researches about professionalization in SMEs, cooperatives, etc. have been carried out.

Sixth chapter: The objective of this chapter is to give academic visibility to CEEs due to its great contribution to the social corporate responsibility and to encourage the so-called social entrepreneurship. The reasons for creating social firms are analysed and the characteristics that can contribute to the success of this type of companies are studied.

## **Resumen**

El objetivo principal de esta tesis doctoral es el análisis económico-financiero de los Centros Especiales de Empleo (CEEs) de España. Los CEEs son empresas productivas que tienen como aspecto diferenciador, en relación a otras empresas del mercado, la contratación de personas con discapacidad. Después de una profunda revisión bibliográfica hemos constatado que no existen estudios detallados que analicen la viabilidad económico-financiera de todos los CEEs en España. Debido a la crisis económica, muchas de estas empresas están viendo reducidas sus ayudas públicas y, a pesar de las constricciones del mercado, siguen funcionando y creciendo. Nos preguntamos cuáles son las claves de su supervivencia mientras cada año entran en proceso concursal miles de empresas de todos los sectores. Desde un punto de vista teórico, hay dos críticas principales sobre la gestión de estas empresas: primero que las subvenciones públicas son las que determinan la viabilidad económica de los CEEs y segundo que la baja profesionalización de la gestión puede poner en duda su rentabilidad. Sobre la base de estas dos críticas, el objetivo principal de este estudio este estudio se divide en seis objetivos específicos, que son los siguientes:

Primer objetivo de esta tesis: estudiar la relevancia de los CEEs en la sociedad y en la economía actual así como en la literatura académica. Para ello se realiza un análisis descriptivo de este tipo de empresas según su evolución, forma jurídica, localización, tamaño y sector de actividad, además de una revisión de la literatura.

Segundo objetivo de este estudio: analizar la supervivencia de los CEEs, determinando cuáles serían las variables clave que condicionan su supervivencia en el mercado competitivo o por el contrario su fracaso.

Tercer objetivo de esta tesis: analizar si la rentabilidad de los CEEs depende de las ayudas públicas recibidas para la integración laboral de las personas con discapacidad. Para conseguir este objetivo se analizan diferentes CEEs con y sin ayudas públicas.

Cuarto objetivo de este estudio: realizar un análisis económico-financiero de los CEEs utilizando la metodología de datos de panel para un horizonte temporal de diez años.

Asimismo se analiza el impacto de la crisis económica en la rentabilidad de los CEEs y se muestran cuáles son las principales variables respecto a su viabilidad.

Quinto objetivo de esta tesis: estudiar si la profesionalización del equipo directivo de los CEEs es una variable que explica la rentabilidad económico-financiera de estas empresas. Para conseguir este objetivo se elabora un cuestionario diseñado específicamente para los CEEs.

Sexto objetivo de esta investigación: mostrar el perfil de emprendimiento social de los CEEs y darles visibilidad académica, debido a su gran contribución a la responsabilidad social. Utilizando la metodología de estudio del caso de un CEE, se analiza en profundidad las variables fundamentales que llevan al éxito a estas empresas.

Esta tesis incluye una introducción general, seis capítulos, conclusiones generales y las referencias bibliográficas. Cada uno de los capítulos contiene los objetivos principales descritos anteriormente. A continuación se presenta un resumen breve de cada uno de los capítulos.

Primer capítulo: incluye una revisión detallada de la literatura sobre los CEEs, que pone de manifiesto que los mismos pueden tener diferentes modelos de gestión y características, dependiendo del sector de actividad y del tamaño de la empresa. Este estudio pretende contribuir a la visibilidad académica de estas empresas, que fomentan el emprendimiento social y son socialmente responsables.

Segundo capítulo: El objetivo de este capítulo es analizar la supervivencia de los CEEs españoles, determinando cuáles serían las variables clave que condicionan su continuidad en el mercado, o por el contrario, su fracaso empresarial.

Tercer capítulo: el objetivo de este capítulo es analizar si los CEEs que reciben subvenciones públicas obtienen mejor rentabilidad económica que aquellos que no reciben subvenciones. Según algunas afirmaciones teóricas, las subvenciones son la clave de éxito de estas empresas.

Cuarto capítulo: los objetivos principales de este capítulo son analizar la viabilidad económico-financiera de los CEEs y mostrar los ratios que mejor explican si estos

centros son rentables o no. Así mismo se trata de analizar el impacto de la crisis económica en la rentabilidad de los CEEs.

Quinto capítulo: el objetivo de este capítulo es estudiar el nivel de profesionalización de los CEEs y analizar si el alto nivel de profesionalización de los directivos es una variable explicativa de la rentabilidad y la solvencia de los mismos. La revisión de la literatura pone de manifiesto que no hay estudios sobre profesionalización de los CEEs, pero sí de otras empresas similares como pymes, cooperativas, etc.

Sexto capítulo: el objetivo de este capítulo es analizar en detalle un CEE, utilizando tanto variables cuantitativas como cualitativas. Para ello se profundiza en las razones para la creación de las empresas sociales y se estudian las características que pueden contribuir al éxito de este tipo de empresas.

## **Introduction**

In times of crisis, companies more than ever recognize the impact that their business activities have on society. So they try to include the corporate social responsibility (CSR) in their activities, considering as a part of their identity (Server and Vicedo, 2009). Companies that incorporate the CSR are more attractive for their customers and, in certain moments, they use CSR as a strategy to reduce the financial risk (Orlitzky and Benjamin, 2001). A greater reputation of the company is related to a less risk of trade and legal sanctions (De Godos et al., 2012). Also, they have other advantages in the market such as competitiveness, higher performance, the achievement of customer loyalty and the improvement in their social reputation (Waddock and Graves, 1997; Orlitzky et al. 2003; García and Llorente, 2009; Herrera et al, 2012). The obtained results suggest that there is, in general, a clear positive association between CSR and financial results (Orlitzky et al. 2003; Pelozo, 2009), although with nuances in some sectors (Martínez et al. 2013).

A type of companies that have a clear vocation and the opportunity to develop their activity in a responsible way for the society are Sheltered Employment Centers (CEEs) (Camacho-Miñano y Pérez, 2012). The CEEs are profitable companies that recruit people with disabilities and this fact is their differentiating aspect in relation to other companies in the market. The CEEs can be the first step to obtain capacity and work experience for people with disabilities, this way their real working ability at work can be identified. In the case of people with disabilities who have more difficulties in finding employment (people with severe physical disabilities), the CEEs could serve as a permanent job place for this people (Díaz y Suñé, 2002). In the case of those persons with disabilities who have more difficulties in labour insertion, these centers can be key to ease their complicated social and labour integration (De Lorenzo, 2004; Cueto et al. 2008; Calderón and Calderón, 2012).

CEEs receive public subsidies for labour integration of people with disability. These public subsidies may have different objectives, such as: creation of CEEs, maintenance of jobs for people with disability, bonuses of the business payment for social security, grants to eliminate architectural barriers and adaptation of jobs, etc. (Royal Decree 1/2013, of 29 November).

Several studies in Spain have studied the evolution of the CEEs in recent decades (Laloma, 2007; Cueto et al. 2008; Rodríguez et al. 2009; Jordán de Urries and Verdugo, 2010; Camacho-Miñano and Pérez, 2012). These studies have found that the number of these centers has increased considerably. At the same time they highlight the importance of CEEs in the context of the social economy. It has shown that these companies return 1.44 euros for every euro that they receive from public administration (KPMG, 2014).

From this point of view, one can consider that CEEs are profitable businesses even in adverse economic situations, although, in general, employment is losing quality in recent years (Díaz Velázquez, 2015). However, there are hardly any specific studies on business management and the problems associated with this particular type of companies, as happens with the cooperatives, venture capital companies, family companies, non-profit organizations, etc. In addition, many CEEs come from associations of family members of people with disabilities or similar, which has led to many problems of adapting to a professional management. Some theoretical studies pointed out, that the key to the success of this type of companies might be the continued support of public policies for labour insertion of people with disabilities (Laloma 2007; Jordán de Urries y Verdugo, 2010; Redondo, 2013).

After a literature review, we have found that there are few studies and scant information about economic and financial viability of the CEEs. There are two main theoretical criticisms which underpin the management of these companies: public subsidies are what determine its economic viability and that the poor professionalization of their managers calls into question its profitability in an unprotected market. Based on these two criticisms, this study aims to show whether they are consistent from an empirical point of view. Therefore, the aim of this thesis is to analyse the future viability of CEEs using public accounting information available for these companies, with particular emphasis on the weight of public subsidies in their profitability. Another important aspect in order to check their viability and profitability is to analyse its management team and the degree of professionalization that they have achieved.

According to this the aim of this thesis is the economic and financial analysis of the CEEs from Spain. This aim is divided into six specific objectives. First objective: to study the importance of CEEs for society and especially for people with disabilities. For this, descriptive analysis of CEEs according to their evolution, legal form, location, size and sector of activity are done. Second objective: to analyse the survival of the CEEs, determining which would be the key variables affecting their survival in a competitive market or on the contrary their failure. Third objective: to investigate if the profitability of the CEEs depends on public subsidies received for the labour integration of people with disabilities. CEEs with and without public subsidies are evaluated. Fourth objective: to analyse the economic and financial keys of CEEs using panel data for ten years. Additionally, the impact of the economic crisis on the profitability of CEEs is studied. Fifth objective: to evaluate whether professionalization of the management team of the CEEs is a variable that explains the economic and financial profitability of these companies. To achieve this goal a questionnaire has been designed specifically for the CEEs management team. Sixth objective: to examine a CEE as a part of social entrepreneurship and give academic visibility to this type of companies, due to its great contribution to social responsibility. Using the methodology of a case study, a CEE has been analysed in depth.

The structure of this thesis is as follows: abstract, introduction, six chapters, conclusions, future lines of research and references. Each chapter contains the main objectives that have been previously described. Below a short summary of these six Chapters is presented.

The title of Chapter 1 is *“Economic and financial analysis of Sheltered Employment Centres in Spain”*. It is a detailed review of the literature on the CEEs showing their importance for the society. This study aims to contribute to the academic visibility of these companies that promote the social entrepreneurship and are socially responsible. The objective of this paper is to analyse the economic and financial structure of these firms in Spain. To achieve this goal, their main financial indicators through accounting ratios are presented. Also variables such as size, sector of activities, localization and legal form of CEEs are studied. The sample for this chapter consists in all the CEEs that operate in Spain during the year 2013. The results show that there



are no previous studies on the economic and financial viability of this type of companies. The main implications of the study and future research in this area are also presented.

Chapter 2 entitles “*Survival patterns for managing Sheltered Employment Centers*”. The objective of this chapter is to analyse the survival of the CEEs, to ascertain the key variables that can condition their continuity in the market, or otherwise, their business failure. The initial sample is the total number of CEEs in Spain, that is, 1,668 firms. The financial statements of all of them were extracted from 2013, the last period available. Then, all CEEs were classified in three groups (healthy, doubtful and distressed), according to their Altman Z'-score. A method of artificial intelligence (algorithm C 4.5) was used in order to obtain the basic patterns of each group.

Chapter 3 is “*The Profitability of Socially Responsible Companies: Public Subsidies for Sheltered Employment Centers*”. The aim of this study is to test whether the CEEs which receive public subsidies obtained better profitability (measured as return on assets), on average, than firms that do not receive government subsidies. Additionally, we want to know the key variables that can justify the solvency or not of these special companies. The sample of the research is 100 CEEs operating in the autonomous community of Madrid. Of these 100 companies, 51 had received grants and 49 are the CEEs without public subsidies. We contrast our main hypothesis using a t-test method. After the descriptive statistics, we use an artificial intelligence tool, PART algorithm, in order to classify our sample according to our criteria: whether they are profitable or not, according to their return on asset ratio.

The title of chapter 4 is “*Economic and Financial Viability of a Particular Case of Social Firms: Sheltered Employment Centers*”. The aim of this paper is twofold: firstly, we want to know the economic and financial situation of all the Sheltered Employment Centres (CEEs) in Spain, using financial data from 2004-2013 and showing which variables explain their viability. Secondly, we want to test the impact of the economic crisis on the profitability of CEEs. The sample for this research is 990 CEEs, operating during 2004-2013. This data represents 54% of all the CEEs of Spain. To achieve the objective of the research, the correlation table and a linear regression analysis for panel data are made.

Chapter 5 is *“Economic and Financial Viability of Sheltered Employment Centres Through their Managers: Is their level of professionalization an explanatory variable of their profitability?”* The objective of this study is to analyse whether the CEEs which have a higher rate of professionalization of the company, have better economic returns than the CEEs which have a lower one. Consequently, the professionalization of the CEEs would be an explanatory variable of their economic and financial viability. However the literature review has shown that there are no studies on professionalization of the CEEs, but researches about professionalization in SMEs, cooperatives, etc. have been carried out. To achieve the proposed objective a survey for the managers of the CEEs has been developed. After collecting responses, an index of professionalism was obtained to distinguish the CEEs with managers of high, medium and low level of professionalism. Then, we compared the index of professionalization with the financial variables.

Chapter 6 entitles as *“Social Entrepreneurship in Sheltered Employment Centers: A Case Study of Business Success”*. The objective of this chapter is to give academic visibility to CEEs due to its great contribution to the social corporate responsibility and to encourage the so-called social entrepreneurship. The reasons for creating social firms are analysed and the characteristics that can contribute to the success of this type of companies are studied. A specific CEE has been analysed in depth using the case study methodology, showing the main features of social economy business and the key variables that have led to its success. The CEE analysed has been compared with two companies that are not CEEs but with the same business objectives, sector of activity, size and location. In addition, the professionalization of the CEE is studied in depth.



## **Capítulo 1**

### **Análisis económico-financiero de los Centros Especiales de Empleo de España**

#### **1. Introducción del capítulo**

El empleo tiene un papel central en la vida de todas las personas pero, sobre todo, para las personas con discapacidad, ya que más allá de los ingresos obtenidos por el trabajo realizado, les permite otra serie de beneficios. Para estas personas, el empleo no sólo ofrece una remuneración, sino también otros beneficios que incluyen el reforzar su identidad personal, ser un medio para estructurar y ocupar su tiempo, conseguir contactos sociales, responsabilidad y participación productiva, y, finalmente, dar un sentido de logro personal (Shepherd, 1989). Otros investigadores consideran que dar a la población la posibilidad de mantener o conseguir un empleo es casi más beneficioso que cualquier otra intervención médica o social (Boardman et al., 2003).

Aun así, en el pasado, trabajo y discapacidad fueron incompatibles. La política básica llevada a cabo por parte de los organismos públicos fue la de protección hacia las personas con discapacidad, no previendo que pudieran tener un trabajo remunerado. Pero, en las últimas décadas, la creciente influencia del movimiento para la personas con diversidad funcional ha desafiado esta actitud y, poco a poco, las barreras se están eliminando. El acceso de las personas con discapacidad a la formación superior, principalmente a la universidad, también ha facilitado su acceso a muchos puestos de trabajo que antes eran imposibles de conseguir.

De hecho, en varios países desarrollados que están aplicando políticas dirigidas por los gobiernos que hacen hincapié en la participación de las personas con discapacidad en el mercado de trabajo y en otras actividades de la comunidad y de la vida pública (Howard, 2005). Por ejemplo, en Estados Unidos se ofrece formación profesional en talleres protegidos, un certificado especial para el trabajo asalariado, servicios previos

a la formación profesional, colocaciones de trabajo en grupo, y actividades de tiempo libre (Cimera et al., 2012). En otros países, como Suecia, existe un tipo de empresa de propiedad estatal que proporciona empleo protegido para personas con discapacidades severas (denominada *Samhall*) que, además de proporcionar empleo para los trabajadores con discapacidad, ofrece también rehabilitación de los mismos fuera del *Samhall* (Skedinger y Widerstedt, 2003).

En España, entre las estrategias realizadas a favor del empleo de personas con discapacidad (véase entre otros, el Real Decreto 290/2004, sobre la regulación de los enclaves laborales como medidas de fomento de empleo de las personas con discapacidad) el Gobierno ha incentivado la creación de Centros Especiales de Empleo (CEE). Éstos tienen su origen en la Ley 13/1982, de 7 de abril, de Integración Social de los Minusválidos (LISMI), que tenía como principales aspectos básicos la integración socio-laboral de las personas con discapacidad. La definición actual de los CEEs se recoge en Real Decreto Legislativo 1/2013, de 29 de noviembre, que define a los CEEs como: *“las empresas cuyo objetivo principal es el de realizar una actividad productiva de bienes o de servicios, participando regularmente en las operaciones del mercado, y tienen como finalidad el asegurar un empleo remunerado para las personas con discapacidad; a la vez que son un medio de inclusión del mayor número de estas personas en el régimen de empleo ordinario.”* Además, los servicios de ajuste personal y social de los CEEs, éstos permiten ayudar a superar las barreras, obstáculos o dificultades que los trabajadores con discapacidad de estos centros tienen en el proceso de incorporación a un puesto de trabajo, así como la permanencia y progresión en el mismo (Real Decreto 469/2006, de 21 de abril). Los CEEs han de tener en su plantilla un 70% de personas con discapacidad igual o mayor a un 33%, cuentan con beneficios económicos y pueden crearse desde la iniciativa pública, privada o mixta, de manera indistinta, ya sea con o sin ánimo de lucro (Giménez et al., 2012). Pueden tener la forma jurídica que se desee pero es indispensable su calificación e inscripción en el Registro de Centros del Servicio Público de Empleo Estatal (SPEE) o en el correspondiente de las Administraciones Autonómicas. Esta consideración se consigue mediante el cumplimiento de todos los requisitos exigidos por la ley, además de la presentación de una memoria explicativa de la situación y actividades del centro (Camacho-Miñano y Perez, 2012).

Son muchas las ventajas que ofrecen los CEEs para las personas con discapacidad, entre otras, la labor social de crear empleo para este colectivo con más garantías que el empleo ordinario, facilitando su incorporación al mercado laboral y, por ende, a la sociedad y suelen ser más accesibles y estar mejor adaptados (Camacho-Miñano y Perez, 2012). Además los CEEs presentan una calidad del empleo bastante satisfactoria (Gómez et al., 2010) y durante la crisis han desempeñado un papel de “refugio de empleo”, evitando que las personas con discapacidad pierdan el contacto con el mercado de trabajo (Rodríguez, 2012). Analizando la literatura existente sobre CEEs se destaca su importancia para las personas con discapacidad, favoreciendo su complicada integración social y laboral (De Lorenzo, 2004; Cueto et al., 2008; Calderón y Calderón, 2012; Redondo y Martín, 2014). Los estudios realizados por varios investigadores en España han revisado la evolución de los CEEs en los últimos años (Laloma, 2007; Cueto et al., 2008; Rodríguez et al., 2009; Jordán de Urrés y Verdugo, 2010; Camacho-Miñano y Perez, 2012; Gelashvili et al., 2015) y los resultados obtenidos muestran su importante crecimiento durante las dos últimas décadas. Teniendo en cuenta esta evolución, se puede considerar que los CEEs son empresas rentables. Sin embargo, los CEEs igual que el resto de empresas, se enfrentan al problema de su viabilidad económico-financiera (Gelashvili et al., 2015). Analizando literatura sobre este tipo de empresas, encontramos pocos estudios sobre su situación económico-financiera (Redondo, 2013, Redondo y Martín; Gelashvili et al., 2015) aunque ninguno de ellos analiza los principales ratios contables utilizando la muestra de todos los CEEs de España. Por lo tanto, el objetivo de este estudio es el análisis de la estructura económico-financiero de los CEEs de España a través de los principales ratios contables.

Las principales contribuciones de este estudio son las siguientes: en primer lugar, se realiza una compilación de la literatura existente sobre los CEEs, constatándose que apenas existen estudios empíricos sobre estas empresas desde un enfoque económico. Además, analizando la situación actual de los CEEs en toda España, la mayoría son empresas pequeñas, dedicadas a la prestación de servicios, con forma jurídica de sociedad limitada y situados en las comunidades autónomas de Andalucía, Cataluña, Castilla y León y Madrid. Los resultados del análisis económico-financiero de los CEEs muestran que son empresas solventes especialmente a corto plazo, así mismo, presentan una baja rentabilidad y elevada deuda acumulada.

## **2. Antecedentes. La importancia de los CEEs en la sociedad**

El sector de la economía social agrupa actualmente a más de 42.900 empresas en España, lo que representa el 10% del PIB en facturación y casi dos millones y medios de empleos (CEPES, 2015<sup>1</sup>). Son empresas competitivas, generadoras de empleo, comprometidas con las personas y tienen por finalidad construir una sociedad más equitativa, solidaria e integradora. De hecho, se trata de un sector plural y diverso, que aglutina cooperativas, sociedades laborales, mutualidades, empresas de inserción y cofradías de pescadores, entre otras. Los CEEs tienen una gran importancia en el marco de la economía social.

Las personas con discapacidad pueden encontrar un puesto de trabajo, apoyo educativo y facilidades para su incorporación social y laboral a través de los CEEs. De hecho, la formación y el empleo son los dos ámbitos en los que se ha desarrollado, con una mayor intensidad, el movimiento asociativo de las personas con discapacidad (Calvo, 2004). Un estudio realizado por KPMG destaca que la tasa de empleo de personas con discapacidad en España se sitúa en valores inferiores al 30%, por debajo de la que se registra en otros países avanzados como Suecia, Alemania o Reino Unido (KPMG, 2007-2013). Debe considerarse que la dificultad de las personas con discapacidad a la hora de obtener y conservar un empleo puede ser superable con la adopción de políticas adecuadas, tendentes a la integración de este colectivo, preferentemente en el mercado de trabajo ordinario, o en su defecto en el mercado protegido, con el objetivo claro y el convencimiento de que el empleo es el paso fundamental para la integración social de las personas con discapacidad (Alcaide, 2005). En los últimos años diversas iniciativas parlamentarias y gubernamentales pro discapacidad han favorecido el desarrollo de programas de rehabilitación específicos, han apoyado la inserción laboral adaptándose al entorno social, y han facilitado la coordinación entre las entidades colaboradoras externas tales como administraciones locales, autonómicas, ONGs, etc. (Barea y Monzón, 2008; Huete y Díaz, 2011). Asimismo, las empresas públicas o privadas que empleen a 50 o más trabajadores

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<sup>1</sup>Para más información véase: <http://www.cepes.es>

están obligados a que, al menos 2% de éstos sean los trabajadores con discapacidad (Real Decreto 364/2005, de 8 de abril). Sin embargo, comparando con otras medidas, los CEEs son la principal política de integración laboral de las personas con discapacidad en España. De hecho, la “Estrategia Global de Acción para el Empleo de Personas con Discapacidad 2008-2012” los sigue reconociendo como tales, aunque se trate también de reforzar su función de puente hacia el empleo ordinario. Sin embargo, hay que admitir que podrían servir como empleo estable para los trabajadores que, debido a su grado de discapacidad y dependencia, tengan dificultades para entrar en el mercado ordinario, y como camino de vuelta cuando un trabajador no se adapte al empleo ordinario (Cueto et al., 2008).

No obstante, la plena integración de las personas con discapacidad en el entorno social todavía es un problema (Calderón y Calderón, 2012) y el apoyo que, tanto el preparador laboral como el supervisor natural o el compañero de trabajo más inmediato, proporcionan al trabajador con discapacidad resulta imprescindible en las fases iniciales de su inserción y también para el mantenimiento del empleo. Además, el apoyo de la familia es muy importante, ya que generalmente contribuye a reforzar y ejercitar las habilidades que el trabajador debe mejorar (Alomar y Cabré, 2005). Por eso la Estrategia Española sobre Discapacidad 2012-2020 tiene como propósito facilitar a las personas con discapacidad todos sus derechos, que están centrados fundamentalmente en la educación, integración laboral, pobreza y exclusión social.

En resumen, podemos afirmar que la efectividad de los CEEs como instrumento de integración laboral es válido, sobre todo para aquellas personas con discapacidad que presentan más dificultades de inserción laboral, contribuyendo a reducir sus índices de paro, así como su inactividad y su integración en la sociedad (Cueto et al., 2008; Rodríguez et al., 2009; Calderón y Calderón, 2012). Una de las tareas pendientes de los CEEs es aumentar su percepción pública como organizaciones modernas, eficientes y que contribuyen de manera significativa y directa a la riqueza nacional (KPMG, 2007-2013). En la última década se ha avanzado positivamente en la integración de las personas con discapacidad en la sociedad española y para que los principios de solidaridad, cooperación y compromiso cívico sean los motores que rijan nuestra sociedad con el fin último de darles visibilidad social y política.



En España muchos estudios han estudiado comportamiento económico financiera de los diferentes sectores empresariales (Fernández y García, 1991; Fernández et al. 1996; De Andrés, 2000; Carmona et al. 2013), aunque hay pocos estudios empíricos sobre la situación económico-financiera de los CEEs (Redondo, 2013; Redondo y Martín, 2014; Gelashvili et al, 2015). Teniendo en cuenta todo lo puesto anteriormente consideramos interesante analizar la situación económico-financiera de los CEEs, las empresas que tienen un valor para la sociedad y para la economía del país. En el siguiente epígrafe, analizaremos de manera descriptiva la situación reciente de este tipo de empresas.

### **3. Análisis descriptivo de los CEEs de toda España**

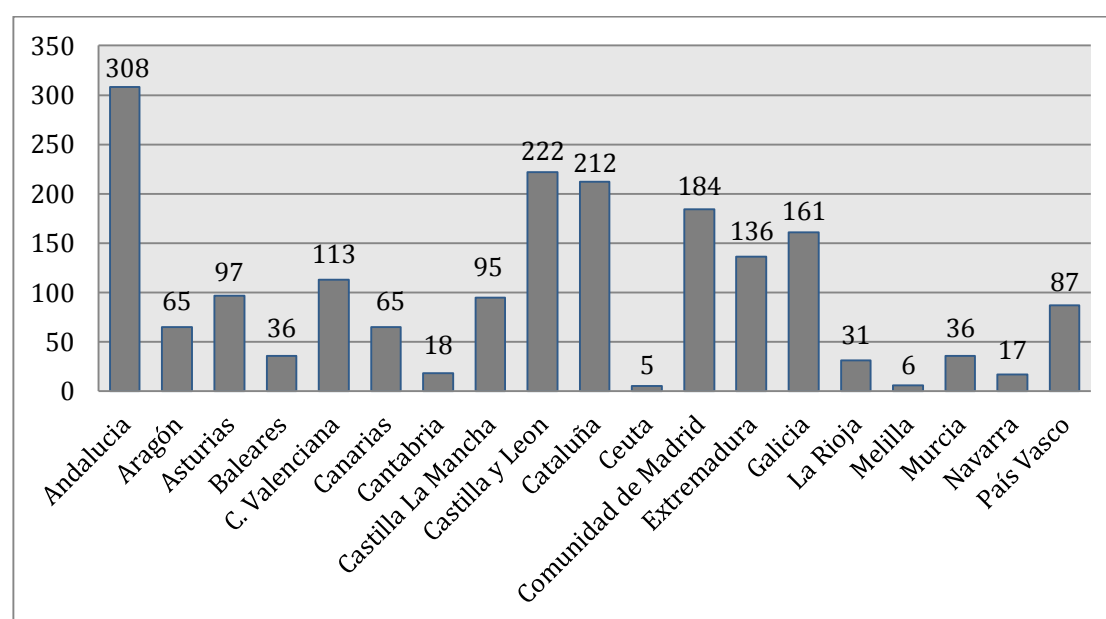
A finales del año 2013 había en España 1.834 CEEs. Ya que la regulación y organización de este tipo de empresas son competencia autonómica, salvo en el País Vasco, Melilla y Ceuta que dependen del Ministerio de Empleo, la información se encuentra muy desagregada. Solo hay una comunidad autónoma, Madrid, que publica información detallada sobre sus CEEs, con acceso gratuito. Otras comunidades autónomas, como Aragón y Galicia, tienen la información sobre los CEEs existentes accesible a través de internet, aunque es incompleta y, por tanto, sesgada. En el resto de las comunidades no es posible el acceso online a la información relativa a sus CEEs. También existen diversas confederaciones de CEEs (tales como ACECA, FEACEM, CONACEE, FECETC o FECEPAS) pero no hay ninguna que aglutine a todos ellos a nivel nacional. Por este motivo, se hace complicado un estudio detallado de este sector.

A través del Servicio de Seguimiento de la Gestión y Apoyo al Empleo de Personas con Discapacidad adscrito a la Secretaría de Estado para el Empleo (SEPE), dependiente del Ministerio de Empleo y Seguridad Social, se pudo acceder al nombre de todos los CEEs existentes en nuestro país. Después del tratamiento y limpieza de los datos, se buscó su información económica-financiera en la base de datos de empresas SABI.

El primer criterio utilizado para el análisis de los CEEs es su localización geográfica. La mayoría de estas empresas están ubicadas en cuatro comunidades autónomas: Andalucía, Castilla y León, Cataluña y Madrid. Como se observa en el gráfico 1 en la

comunidad de Andalucía hay 308 CEEs, lo que representa un 16,7% del total nacional. Curiosamente, según la Encuesta de Población Activa, en junio del año 2013, esta comunidad autónoma era la que aglutinaba el mayor porcentaje de desempleo nacional (35,7%). Castilla y León está en segundo lugar con 222 centros (12,1% del total). Cataluña ocupa el tercer puesto con 212 CEEs (11,5% del total). Y la Comunidad de Madrid cuenta con el 10% del total de estas empresas. Lógicamente, Ceuta y Melilla son los territorios que, dada su extensión en tamaño, tienen menos centros.

**Grafico 1. CEEs por Comunidades Autónomas 2013**



Fuente: Elaboración propia a través de la documentación facilitada por el Servicio Público de Empleo Estatal.

Si comparamos esta distribución con el número global de empresas existentes en España, hay que destacar que Andalucía (alrededor de 470.000 empresas, 17,4% del total nacional) y Castilla León (alrededor de 162.000 empresas, 6% del total nacional) no son las comunidades autónomas que mayor número de empresas tienen. También es interesante subrayar el elevado porcentaje de CEEs en Galicia, Extremadura y Asturias, comunidades de pequeña extensión territorial y con poco tejido empresarial global. De estas cifras y su comparativa a nivel nacional, se desprende que la existencia de CEEs depende de la sensibilidad política de unas comunidades frente a otras. De hecho, al estar los CEEs regulados por cada comunidad autónoma, unas

legislaciones favorecen más su creación frente a otras, con ayudas específicas y planes de apoyo especiales. Madrid y Cataluña son comunidades emprendedoras y concentradoras de empleo a nivel nacional pero hay otras que, sin tener esa vocación, son emprendedoras y concentradoras de empleo para personas con discapacidad.

El segundo criterio de análisis es la forma jurídica que tienen estas empresas, que podría ser una proxy de su tamaño. Es decir, las sociedades anónimas, al requerir una cifra mínima de capital social de más de 60.000 euros, son de mayor tamaño que las sociedades limitadas, en las que se exige por ley un capital mínimo de 3.000 euros. En el gráfico 2 se observa que existe una gran disparidad en cuanto a la forma jurídica de estas empresas, desde asociaciones a cooperativas, pasando por congregaciones e instituciones religiosas y corporaciones locales. Sin embargo, la mayoría de ellos son empresas con formas jurídicas tradicionales. El 65% de los CEEs son sociedades de responsabilidad limitada, frente al 16% que tienen forma jurídica de asociaciones y el 10% de ellos que son sociedades anónimas.

**Gráfico 2. Forma jurídica de los CEEs**



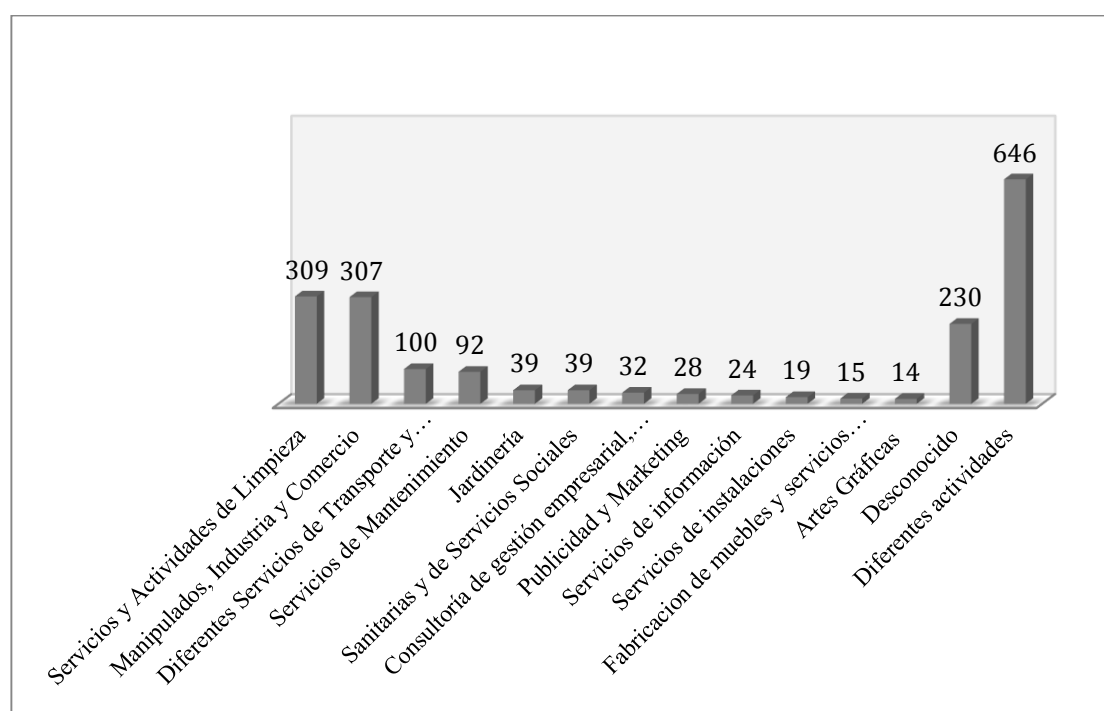
Fuente: Elaboración propia a través de la documentación facilitada por el Servicio Público de Empleo Estatal.

La idea que subyace es que los CEEs no son centros ocupacionales en ningún caso, sino empresas. De hecho el artículo 9 del Real Decreto 2273/1985, de 4 de diciembre, por el que se aprueba el Reglamento de los CEEs establece literalmente que “vendrán

obligados a realizar una gestión sujeta a las mismas normas y requisitos que los que afectan a cualquier empresa del sector a que pertenezcan.”

En cuanto al criterio de la actividad que desarrollan, los CEEs de España pertenecen a diversos sectores, como se observa en el gráfico 3. En primer lugar, señalar que se dedican a actividades muy diversas, desde el manipulado e industria hasta publicidad, marketing y artes gráficas. Sin embargo, hemos encontrado muchas empresas que no están adscritas a ninguna actividad y también CEEs que realizan múltiples actividades (35% del total). Destacan las empresas de actividades de limpieza (16,8%), manipulados (16,7%) y transporte (5,4%). Las dos primeras actividades, limpieza y manipulados, requieren de tareas rutinarias en su mayoría, que suelen ser realizadas de manera muy competente por los trabajadores con discapacidad.

**Gráfico 3. Los CEEs por actividades 2013**



Fuente: Elaboración propia a través de Servicio Público de Empleo Estatal.

Si agrupamos estas actividades por sectores, el principal es el de servicios. Este resultado está en línea a nivel estatal con la información del Instituto Nacional de Estadística (INE), que recoge que el 70% del tejido empresarial español está formado

por empresas de servicios. Concretamente las actividades de limpieza y mantenimiento de edificios son las actividades empresariales con una estabilidad asegurada en el mercado, debido a que la demanda es estable e incluso creciente, ya que en muchos hogares este servicio se hace prácticamente imprescindible. Esto está motivado por el incremento de la capacidad adquisitiva media en los hogares, donde los dos miembros trabajan, y la incorporación plena de la mujer al mercado laboral. Específicamente, la actividad de limpieza es necesaria para el desempeño diario de las empresas e instalaciones. De hecho, según el informe especial de DBK: “Grupos Multiservicios”, el 30% de las franquicias también agrupan estas actividades. Según datos del INE en el año 2013 las actividades industriales de limpieza (código 812 del CNAE-2009) agrupan a más de 24.000 empresas dedicadas a estas actividades, ocupando a más de 462.000 trabajadores. Es de destacar que casi el 80% de estos trabajadores son mujeres, que comparado con los hombres, acumulan mayores tasas de desempleo. Sin embargo, este sector tiene una competencia muy agresiva, con remuneraciones bajas -muy ajustadas al salario mínimo interprofesional- y con escasa fidelidad por parte de algunos clientes.

#### **4. Muestra y metodología del estudio.**

##### **4.1. Muestra**

A través del número de identificación fiscal de las empresas hemos podido acceder a las cuentas anuales de los CEEs, utilizando la base de datos SABI. En el momento de realizar nuestro estudio, el último año disponible de las cuentas anuales fue 2013. Sin embargo, no fue posible obtener los datos del balance de situación y la cuenta de resultados de todos los CEEs de España. La muestra de la investigación al final se limitó a 530 CEEs, lo que supone el 29% de la muestra total<sup>2</sup>.

La media de antigüedad de las empresas de la muestra es de 11 años, es decir que tienen experiencia en el mercado. En cuanto a las actividades que desarrollan los

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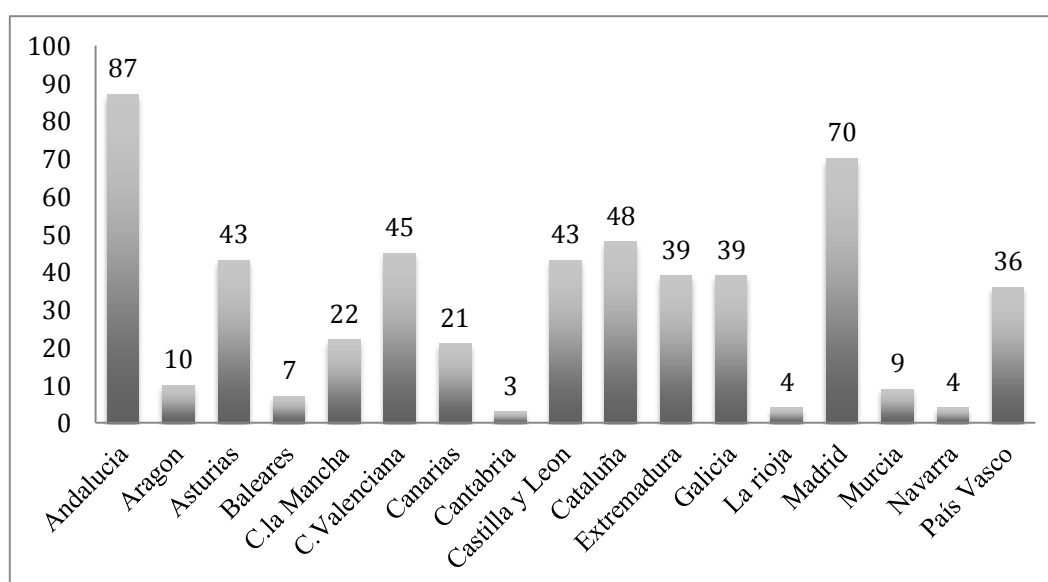
<sup>2</sup> Hay que tener en cuenta que algunos de los Centros no están obligados a presentar sus cuentas en el Registro Mercantil. Esto hace que muchas empresas presten poca atención a la elaboración de la información contable.

CEEs de la muestra final, los datos han sido recodificados siguiendo el sistema de clasificación de las actividades NACE rev.2. En el gráfico 3 se muestran los CEEs según SEPE. Sin embargo al reducirse la muestra, dicha clasificación estaba muy sesgada. Por este motivo hemos utilizado los códigos por actividades incluidos en SABI. Según esto, el 26% de estas empresas desarrollan sus actividades en el área de actividades administrativas y servicios auxiliares (esta sección incluye las actividades de limpieza), el 25% están operando en la industria (alimentaria, textil, extractivo, manufacturera) y el 18% realizan actividades de comercio al por mayor y al por menor, reparación de vehículos, transporte y almacenamiento. Por último, el 10% de las empresas se dedican a prestar servicios de información y comunicación, actividades profesionales, científicas y técnicas. Los restantes realizan actividades diversas.

Según la forma jurídica de las empresas de la muestra final, el 90% son sociedades de responsabilidad limitada, el 9% de estas empresas son sociedades anónimas y el 1% restante presentan diferentes formas jurídicas.

En el gráfico 4 se presenta la distribución por localización de la muestra final.

**Gráfico 4. La distribución de la muestra final por comunidades autónomas**



Fuente: Elaboración propia a través de base de datos SABI

Según el gráfico 4, las comunidades autónomas que mayor número de CEEs tienen en la muestra final son Andalucía, la comunidad de Madrid, Cataluña y la comunidad Valenciana. Las ciudades Ceuta y Melilla no disponían de los datos financieros para 2013, por eso están excluidos de la muestra final.

#### 4.2. Los ratios contables utilizados

Las variables utilizadas son aquellas que sirven para analizar la situación actual de los CEEs. Normalmente, para el análisis económico-financiero de una empresa se utilizan ratios contables o razones/proporciones entre dos variables económicas. Un estudio realizado por Carmona et al. (2013) utiliza los ratios para el diagnóstico económico-financiero de las empresas cooperativas. Dada las similitudes de gestión entre CEEs y las cooperativas, se han usado aquellos ratios que mejor analizan si una empresa es rentable, si está endeudada, y si es solvente. A continuación se presentan cada uno de estas variables (véase tabla 1):

1. **Los ratios de rentabilidad** determinan si la empresa genera los suficientes recursos en función de medios económicos o financieros de los que dispone. Existen diferentes tipos de rentabilidad empresarial. Las más utilizados son la rentabilidad económica o ROA, que mide la eficiencia de la empresa a través de sus inversiones y la rentabilidad financiera o ROE, que trata de medir la capacidad de remuneración de la empresa a favor de sus accionistas. Cuanto mayor sea el ratio de rentabilidad, más eficiente será la empresa y, mejor desarrollará su actividad principal, objeto social de la misma. Hemos incluido en el análisis otros ratios de rentabilidad como REN1, REN2, REN3 y REN4 que miden la rentabilidad comparando los resultados antes de impuestos con las inversiones realizadas por los propietarios, con los recursos propios, con los recursos ajenos y las ventas.
2. **Los ratios de endeudamiento** o de estructura financiera determinan si la empresa tiene demasiado nivel de deudas y analiza la proporción del patrimonio neto en relación a sus deudas a corto o a largo plazo. Es decir, la relación entre la financiación externa y la autofinanciación que posee la empresa. END representa la totalidad de la deuda acumulada por la empresa,

EF1 y EF2 analizan la deuda de la empresa en corto y largo plazo, y EF3 y EF4 son los ratios que miden el coste de la financiación ajena y los gastos financieros en las ventas.

3. **Los ratios de solvencia a corto/largo plazo** analizan si una empresa puede hacer frente o no a sus deudas a corto/largo plazo. Se dice que una empresa es solvente a corto/largo plazo si puede pagar sus deudas a corto/largo plazo. Por lo tanto, los ratios SOLV\_CP1 y SOLV\_CP2 miden la capacidad de la empresa pagar sus deudas a corto plazo y las ratios SOLV\_LP3 y SOLV\_LP4 analizan la solvencia de la empresa a través de recursos generados y miden la solvencia de la empresa globalmente.

**Tabla 1. Ratios contables analizados**

Ratios de rentabilidad		
ROA%	(Resultado Explotación/Total Activo)*100	RE/TA
ROE%	(Resultado del Ejercicio /Fondos Propios)*100	RE/FP
REN1%	(Resultado del Ejercicio antes de impuestos/Total Activo)*100	REAI/TA
REN2%	(Resultado del Ejercicio antes de impuestos /Fondos Propios)*100	REAI /FP
REN3%	(Resultado del Ejercicio antes de impuestos /Pasivo Total)*100	REAI /PT
REN4%	(Resultado del Ejercicio/Importe neto Cifra de Ventas)*100	RE/INCV
Ratios de endeudamiento		
END	Pasivo Total/Patrimonio Neto	PT/PN
EF1	Pasivo no Corriente/Fondos Propios	PNC/FP
EF2	Pasivo Corriente/Fondos Propios	PC/FP
EF3	Gastos Financieros/Pasivo Total	GF/PT
EF4	Gastos Financieros/Importe Neto Cifra de Ventas	GF/INCV
Ratios de solvencia		
SOLV_CP 1	Activo corriente/Pasivo Corriente	AC/PC
SOLV_CP 2	(Activo corriente - Existencias)/Pasivo Corriente	(AC-E)/PC
SOLV_LP 3	(Resultado del Ejercicio+ Impuestos sobre sociedades+ Inmovilizado material)/Pasivo Total	(RE+ISS+IM)/PT
SOLV_LP4	Patrimonio neto/Pasivo Total	PN/PT

Fuente: Elaboración propia a través de base de datos SABI.



## 5. Resultados

### 5.1. Ratios de rentabilidad

En la tabla 2 se recogen los resultados de los ratios de rentabilidad de los CEEs de la muestra. La rentabilidad económica de los CEEs es del 1,4% lo que supone que son empresas con baja rentabilidad. De cada 100 euros de inversión en activo, se genera 1,4 euros de resultado de explotación; es decir, sus activos no generan suficientes rendimientos en términos de resultados propios de la actividad principal de la empresa. Si comparamos la rentabilidad de los CEEs con empresas similares, como pueden ser las cooperativas, podemos ver que no hay mucha diferencia, incluso los CEEs resultan más rentables en todo los aspectos menos en la rentabilidad de las ventas, donde los CEEs durante 2013 han tenido un resultado negativo (-0,02%). Así mismo se puede observar que las inversiones realizadas por los propietarios en CEEs son más altas (20,52%) que en las cooperativas (9%). Para profundizar en los resultados se ha efectuado un análisis por cuartiles, ya que dicho análisis permite dividir los CEEs en cuatro partes iguales y analizar cada una de ellas. La tabla 2 muestra que los CEEs situados en el primer cuartil tienen, en media, rentabilidad económica (ROA) negativa (-23,79), mientras que los cuartiles 2, 3 y 4 presentan una rentabilidad económica positiva. También es llamativo la cifra de rentabilidad de los CEEs del cuarto cuartil (23,75), lo que supone que hay centros que tienen una rentabilidad muy alta, mientras que otros luchan para sobrevivir en el mercado. En cuanto a la rentabilidad financiera (ROE) de los CEEs, es del 16,4% lo que supone que de cada 100 euros que invierten los accionistas, se recuperan 16,4 euros en el ejercicio. Si comparamos ROA y ROE, la media del ROA es significativamente más baja que de la ROE, eso implica que los CEEs tienen más capacidad de remuneración a favor de sus accionistas.

Si comparamos los diferentes tipos de rentabilidades, la más elevada es la que compara los resultados con los fondos propios de la empresa seguida de la que los compara con el endeudamiento de la empresa. El ratio REN4 que compara el resultado del ejercicio con el importe neto cifra de ventas presenta la cifra es más baja comparando con otros ratios de rentabilidad. De hecho, la rentabilidad obtenida por las ventas no ha sido positiva para los CEEs en el período de estudio. Quizás el impacto de la crisis

económica ha sido el causante de una disminución de las ventas, en línea con lo que plantean Hernández y Millán (2015).

Sin embargo, los ratios de rentabilidad más elevados son también los que tienen mayor desviación típica, ROE y REN2, lo que supone que hay un mayor grado de dispersión de las observaciones respecto a la media.

Analizando los cuartiles de los ratios de rentabilidad, se ve que 50% de los CEEs son empresas rentables y llegan a una rentabilidad satisfactoria (Q3; Q4). El 25% de los CEEs de la muestra final presentan una rentabilidad negativa (Q1) y el otro 25% presenta bajos resultados económico-financieros (Q2).

**Tabla 2. Estadísticos Descriptivos de los ratios de rentabilidad. CEEs 2013**

<b>Variable</b>	<b>Mínimo</b>	<b>Máximo</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Media</b>	<b>Desv. típica</b>
<b>ROA%</b>	-224,25	308,67	-23,79	0,79	5,15	23,75	1,48	26,76
<b>ROE%</b>	-1378,81	5372,34	-61,44	2,36	12,36	112,44	16,4	252,3
<b>REN1%</b>	-224,25	280,02	-25,64	-0,003	4,23	23,24	0,46	26,88
<b>REN2%</b>	-1378,81	7163,12	-73,44	2,34	13,88	139,48	20,52	329,9
<b>REN3%</b>	-564,02	433,57	-39,89	0,00	9,16	77,14	11,58	65,68
<b>REN4%</b>	-315,26	368,42	-38,33	-0,19	4,60	25,11	-2,20	39,51

Fuente: Elaboración propia a través de base de datos SABI

## 5.2. Los ratios de endeudamiento o de estructura financiera

En la tabla 3 se resumen los principales ratios que miden el endeudamiento de los CEEs. El valor óptimo de este ratio END se sitúa entre 0,4 y 0,6. Cuando el valor de ratio es superior a 0,6 indica que la empresa tiene un endeudamiento elevado. Los CEEs están fuertemente endeudados, es decir, de cada 100 euros de financiación interna, de media, soportan 377 euros de financiación externa. Sin embargo, hay una gran dispersión. Esta variación supone un riesgo de gran endeudamiento para algunos

CEEs, lo que les podría llevar a una posible descapitalización empresarial, además de elevados costes financieros.

En cuanto al vencimiento de las deudas, se observa que el endeudamiento a largo plazo (EF1) es muy inferior al de corto plazo (EF2). Es decir, que los CEEs tienen, como media, 0,37€ de deudas a largo plazo por cada euro de fondos propios, mientras que alcanzan 3,4€ de deudas con vencimiento a corto plazo por cada euro de fondos propios. Así mismo el ratio que mide los costes de financiación ajena (EF3) presenta un 2% del total de los pasivos, lo que implica que su coste no es elevado, a pesar de estar fuertemente endeudados. El ratio EF4, que compara los gastos financieros con las ventas, tiene un valor inferior a 0,04. Esto significa que los gastos financieros sobre ventas no son excesivos. En líneas generales, estas empresas están siendo financiadas a bajo coste, quizás debido al impacto de las ayudas públicas o la posibilidad de endeudamiento sin coste a través de organismos públicos como el Instituto de Crédito Oficial (ICO).

En cuando a los cuartiles podemos decir que las empresas que están situadas en el cuarto cuartil tienen un endeudamiento bastante alto, mientras que centros que están en el primer cuartil presentan un endeudamiento negativo. De allí podemos decir que 25% de los CEEs de la muestra final están fuertemente endeudados. En cuanto a los ratios EF3 y EF4 vemos que la diferencia entre los cuatro cuartiles es escasa, eso significa que estos dos ratios tienen un impacto similar en los resultados financieros de los CEEs.

**Tabla 3. Estadísticos descriptivos de los ratios de endeudamiento o estructura financiera. CEEs 2013**

<b>Variable</b>	<b>Mínimo</b>	<b>Máximo</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Media</b>	<b>Desv. típica</b>
<b>END</b>	-101,34	914,27	-4,04	0,57	1,58	17,00	3,77	40,99
<b>EF1</b>	-68,66	31,97	-1,16	0,03	0,23	2,81	0,37	4,50
<b>EF2</b>	-49,13	914,27	-2,49	0,37	1,10	14,65	3,40	40,43
<b>EF3</b>	0,00	0,13	0,00	0,005	0,01	0,06	0,02	0,02
<b>EF4</b>	0,00	1,66	0,00	0,002	0,01	0,09	0,03	0,12

Fuente: Elaboración propia a través de base de datos SABI

### 5.3. Ratios de solvencia a corto/largo plazo

En la tabla 4 podemos observar los principales estadísticos descriptivos de los ratios de solvencia a corto y largo plazo. Para los ratios de solvencia, el valor ideal de la media es tener un valor igual o superior a 1,5. En general, los datos demuestran que los CEEs son empresas solventes especialmente en el corto plazo. Los ratios SOLV\_CP1 y SOLV\_CP2 tienen una media casi igual a 3. Esto indica que con los recursos disponibles a corto plazo pueden hacer frente a sus deudas con un vencimiento inferior a 12 meses, aunque su desviación típica también es alta. El ratio que menos representa a la solvencia de los CEEs es SOLV\_LP3 con una media de 0,80, que compara los recursos generados antes de impuestos con la deuda total de la empresa. Para el funcionamiento de las empresas en su día a día, lo importante es que tengan unos ratios de solvencia a corto plazo superiores a los ratios de solvencia a largo. Esto les otorga una mayor capacidad a la hora de desarrollar su objeto social.

Analizando el ratio de solvencia SOLV\_LP4, también llamado de garantía, que mide la solvencia global de los CEEs a largo plazo, vemos que hay una gran dispersión aunque, de media, la garantía ofrecida a sus acreedores es elevada.

**Tabla 4. Estadísticos descriptivos de los ratios de solvencia a largo/corto plazo.  
CEEs 2013**

Variable	Mínimo	Máximo	Q1	Q2	Q3	Q4	Media	Desv. típica
SOLV_CP 1	0,01	80,31	0,61	1,22	2,03	7,65	2,87	5,74
SOLV_CP 2	0,01	80,24	0,46	1,09	1,85	7,43	2,71	5,73
SOLV_LP 3	-5,36	29,19	-0,18	0,32	0,74	2,33	0,8	1,74
SOLV_LP4	-0,85	128,55	-0,09	0,42	1,23	7,44	2,25	7,77

Fuente: Elaboración propia a través de base de datos SABI.

Si analizamos la solvencia de los CEEs por cuartiles, vemos que un 25% de las empresas presentan una solvencia muy alta, independientemente de su longitud. Las

empresas que se sitúan en los cuartiles 2 y 3 tienen una solvencia a corto plazo más alta que la solvencia a largo plazo, pero siguen siendo empresas solventes. En caso del primer cuartil, Q1, vemos que la solvencia a largo plazo es negativa para las empresas que están en este cuartil, mientras que solvencia a corto plazo es positiva, aunque presentando un valor bastante bajo.

## **6. Conclusiones**

El objetivo de este estudio es el análisis económico-financiero de los CEEs en nuestro país. En primer lugar, hemos constatado que existen muy pocos estudios previos sobre la viabilidad económico-financiera de este tipo de empresas. En segundo lugar, los análisis muestran que los CEEs están situados principalmente en cuatro comunidades autónomas, son mayoritariamente sociedades limitadas y están centrados en la prestación de servicios. Adicionalmente, con este estudio queremos dar visibilidad a este tipo de empresas que contratan a personas con discapacidad. Como hemos constatado realizando este estudio, existen dificultades para acceder a los datos de estas empresas. Salvo la Comunidad de Madrid, la información pública recogida en internet está sesgada o no existe. Esta falta de transparencia de la información conlleva una falta de visibilidad de esta realidad social y, en ocasiones, la poca sensibilidad hacia el empleo de personas con discapacidad.

Analizando los datos financieros de los CEEs disponibles a finales del año 2013, se observa que sus rentabilidades medias son bajas, ya que sus activos no generan suficiente rendimiento en la realización de su actividad principal, si bien son rentables para sus accionistas. En cuanto al endeudamiento, se observan unas elevadas tasas de deuda a corto plazo, por término medio, lo que pone en cuestión la viabilidad presente de algunos CEEs, aunque son empresas solventes, según sus ratios de solvencia. La pregunta que subyace a continuación es la siguiente: ¿qué factores podrían condicionar la solvencia de estas empresas? Una posible futura línea de investigación deriva hacia un análisis más profundo de la situación económico financiero de los CEEs, añadiendo variables que podrían ser explicativas de estos resultados. Una de estas variables podría ser la cuantía de las ayudas públicas, o la localización de la empresa en una determinada región.

Las perspectivas de empleo de una persona con discapacidad no están simplemente determinadas por sus deficiencias, ya que las políticas de empleo protegido, de rehabilitación y apoyo para su integración en el mercado de trabajo ordinario son claves para su normalización laboral y social. Dentro del empleo para personas con discapacidad, los CEEs son una buena estrategia, tanto empresarial como social, para cumplir con la responsabilidad empresarial a la sociedad. Estas empresas, recogidas dentro del epígrafe de economía social, constituyen una salvaguarda para la verdadera normalización e integración de personas con discapacidad. Nadie está exento de un accidente grave o una enfermedad, por lo que los organismos públicos deben potenciar el rol que estas empresas juegan en la sociedad actual. Es más, en un contexto de crisis como el actual, el emprendimiento se ha convertido en una salida a la misma. El emprendimiento social se traduce en la creación de empresas en la que los fines sociales son la prioridad y el beneficio empresarial no es más que el resultado del trabajo bien hecho, y no la maximización del beneficio económico.

Para promover la colaboración institucional público-privado para el desarrollo de iniciativas emprendedoras de carácter social, la Asociación Española de Contabilidad y Administración de empresas (AECA)<sup>3</sup> ha constituido un grupo de trabajo sobre empresa social. Esta iniciativa es claramente una forma de dar visibilidad a las empresas sociales, identificando claramente sus necesidades y comprendiendo mejor su modelo organizativo. Para mejorar la situación existente hay que remover las barreras socioculturales, legales y físicas, tanto arquitectónicas como de comunicación, que aún dificultan el acceso al empleo de las personas con discapacidad. Habría que realizar campañas informativas dirigidas a empresarios, profesores y a otros agentes sociales sobre materias tales como: la diversidad de los tipos de discapacidad, las capacidades laborales potenciales de las personas con alguna discapacidad, la existencia de los CEEs, su legislación y viabilidad como parte del emprendimiento social, etc... Además de esto hay que poner en marcha campañas de motivación dirigidas a las personas con discapacidad para que se encaminen hacia la vida laboral activa: informando sobre recursos formativos, recursos para acceder al mercado de trabajo, o sobre cómo inscribirse como demandantes de empleo, sensibilizando de manera específica a las pequeñas y medianas empresas y a los

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<sup>3</sup><http://www.compromisoempresarial.com/tercersector/emprendedores-sociales-2/2014/03/aeca-constituye-un-grupo-de-trabajo-sobre-empresa-social/>

trabajadores sin discapacidad sobre las potencialidades de las personas con discapacidad y sobre los beneficios que para todos supone compartir actividad con ellos, en línea con el informe de “Estrategia Global de Acción para el Empleo de Personas con Discapacidad, 2008-2012”.

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## Capítulo 2

### Patrones de Supervivencia para la Gestión de los Centros Especiales de Empleo

#### 1. Introducción del Capítulo

Las situaciones de crisis económicas provocan cuantiosas pérdidas para la economía, en general, y para las empresas, en particular (Wu, 2010). La incorporación de España a la Unión Europea ha mostrado que todavía existe un gran número de empresas en nuestro país sin posibilidad de competir en un contexto económico y social tan exigente como el actual (Val Merino et al, 2013). Además, la actual crisis económica ha provocado que miles de empresas cierren o se liquiden. De hecho, el número de insolvencias empresariales es un indicador considerado de gran relevancia en el análisis y evolución de la economía de un país (Ayuso, 2013). En consecuencia, la predicción de la insolvencia empresarial es una cuestión de vital importancia para todos aquellos agentes relacionados con una empresa: propietarios o accionistas, directivos, trabajadores, prestamistas, proveedores, clientes, la sociedad y las autoridades públicas. Todos ellos necesitan conocer, con el mayor grado de exactitud posible, el nivel de solvencia de la empresa para poder establecer con suficiente tiempo de antelación políticas de ajuste, que minimicen el riesgo y las posibles consecuencias negativas de posibles situaciones de crisis empresarial no deseadas.

Un tipo especial de empresas son los Centros Especiales de Empleo (CEEs), que pueden tener o no ánimo de lucro, pero que necesitan alcanzar una cierta rentabilidad para sobrevivir en el mercado. El Real Decreto Legislativo 1/2013, de 29 de noviembre, por el que se aprueba el Texto Refundido de la Ley General de Derechos de las Personas con Discapacidad y de su Inclusión Social define los CEEs como *“aquellos cuyo objetivo principal es el de realizar una actividad productiva de bienes o de servicios, participando regularmente en las operaciones de mercado, y tener como finalidad el asegurar un empleo remunerado para las personas con discapacidad; a la vez que son un medio de inclusión del mayor número de estas*

*personas en el régimen de empleo ordinario*” (art. 43). Ya que el 70% de sus trabajadores, como mínimo, tienen que tener una discapacidad reconocida igual o superior al 33%, y esto puede suponer una merma en su productividad, los CEEs están incentivados con ayudas financieras públicas que reciben sus empresarios, entre otras: bonificaciones del 100% de la cuota empresarial a la Seguridad Social, el 50% del salario mínimo interprofesional, subvenciones para el mantenimiento del puesto de trabajo, para eliminar las barreras arquitectónicas y adaptación de puestos de trabajo, etc.

Los CEEs del empleo forman parte del sector denominado “economía social”. La ley 5/2011 de 29 de marzo, de Economía Social, indica que forman parte de la economía social en España las empresas de inserción, las cooperativas, las sociedades laborales, las mutualidades, las cofradías de pescadores, los centros especiales de empleo, las sociedades agrarias de transformación y las fundaciones (art. 5). A diferencia de otro tipo de empresas, en las que criterios económicos como maximizar el beneficio son sus principales directrices, para este tipo de entidades priman principios tales como la primacía de las personas y del fin social sobre el capital, el reparto equitativo y social de los beneficios y la solidaridad. Esto significa unos criterios de gestión que deben compatibilizar viabilidad económica y rentabilidad con sus fines sociales. De ahí, que la gestión de los CEEs debe ser, desde el punto económico muy eficaz, para poder cumplir con los otros fines planteados, de marcado carácter social.

En consecuencia, los CEEs españoles, al igual que el resto de empresas, se enfrentan al problema de su viabilidad económico-financiera. En situaciones de crisis como la actual, tienen que hacer frente a un gran desafío y es que deben ser competitivos a nivel nacional e internacional (en su caso) y seguir sobreviviendo. Cabe recordar que muchos CEEs han nacido al amparo de asociaciones y fundaciones que, en muchas ocasiones, carecen de herramientas de gestión adecuadas, lo que puede constituir una de las principales razones de su fracaso. Por lo tanto, la supervivencia de los CEEs es una cuestión crucial en su gestión. Las investigaciones realizadas en nuestro país han estudiado su importancia, situación actual y jurídica durante las últimas décadas (Laloma, 2007; Cueto et al., 2008; Rodríguez et al., 2009; Jordán de Urríes y Verdugo, 2010; Camacho-Miñano y Pérez, 2012, Redondo y Martín, 2014). Todos ellos constatan que ha habido una tendencia creciente en la creación de este tipo

particular de empresas e incluso su número y sus contratos laborales han crecido durante la crisis económica actual (Rodríguez, 2012; Redondo, 2013). Sin embargo, existen muy pocos estudios desde un enfoque empresarial y de análisis económico-financiero (Redondo y Martín, 2014). También hay muchos estudios sobre predicción de insolvencias (Camacho-Miñano et al., 2013; Laitinen et al., 2014). Para una revisión de este tema puede consultarse Tascón y Castaño (2012). Sin embargo, no hay estudios específicos sobre dicha cuestión que se centren en los CEEs.

Teniendo en cuenta todo lo anteriormente expuesto, el objetivo de este estudio es analizar la supervivencia de los CEEs, determinando cuales serían las variables clave que condicionan dicha supervivencia o por el contrario su fracaso. Utilizando la totalidad de los CEEs de España y obteniendo su información económico-financiera, se han clasificado dichas empresas entre sanas, dudosas e insolventes, siguiendo el indicador Z'-score de Altman. Aplicando una metodología de inteligencia artificial como es el C4.5, se han obtenido los patrones de supervivencia y fracaso de los CEEs. Estos patrones pueden ser indicadores relevantes para evaluar su gestión.

Las principales contribuciones de este estudio son: que el nivel de endeudamiento, las ventas generadas, y su liquidez son indicadores relevantes que determinan la supervivencia de los CEEs en nuestro país. Por lo tanto, son características que deben ser tenidas en cuenta a la hora de la gestión empresarial.

Este artículo se estructura como sigue: en el segundo apartado se expone el índice de supervivencia del Z-score como un parámetro de probabilidad de quiebra. Posteriormente, se plantea la pregunta de investigación que queremos responder con este estudio, la descripción detallada de las variables a contrastar, la metodología utilizada y la muestra. En el apartado cuarto se presentan los resultados y su discusión, para finalizar con las conclusiones obtenidas.

## **2. Los CEEs y su Viabilidad: Indicador Z-SCORE**

La viabilidad y, en consecuencia, el riesgo de fracaso empresarial ha sido reconocido como un factor importante en el área de la macroeconomía o en los análisis

industriales. Al mismo tiempo, tanto el número de empresas quebradas como la tendencia relativa, son considerados indicadores de la solidez de las industrias y del conjunto de la economía. De hecho, la importancia del riesgo del fracaso ha sido un factor tenido en cuenta desde hace mucho tiempo, y esta es la razón que explica el gran desarrollo de las investigaciones en el área de la gestión financiera para la evaluación de las empresas y la declaración de su viabilidad.

Los estudios pioneros sobre predicción de crisis empresariales datan de la década de los años treinta del siglo pasado. Fitzpatrick (1932) y Winakor y Smith (1935) son los primeros trabajos en los que se aplicaron técnicas de análisis univariante básico, describiendo las tendencias de varios ratios financieros. Sin embargo, no será hasta la década de los sesenta cuando se empiecen a utilizar técnicas estadísticas más complejas. A partir de estos estudios, Beaver (1966), Altman (1968) y otros muchos, se ha intentado elaborar una teoría general del fracaso empresarial, aunque todavía sin éxito (Balcaen y Ooghe, 2006; Pozuelo et al., 2013).

Inicialmente, los ratios o datos contables eran la base de los estudios que intentaban predecir y, por tanto, explicar el fracaso empresarial. Los primeros trabajos consistían en analizar los casos de fracasos empresariales reales y, utilizando un método inductivo, aprender las características de las empresas fracasadas comparándolas con otras “sanas”. Sin embargo, aún hoy en día, y con más de medio siglo de investigaciones posteriores, todavía no existe unanimidad entre los investigadores sobre cuáles son los variables que mejor explican la situación de insolvencia ni la reorganización de empresas. En la literatura, muchos investigadores han utilizado los principales ratios del análisis financiero o de los documentos de los estados financieros (balance de situación, cuenta de pérdidas y ganancias o estado de flujos de efectivo) para explicar la insolvencia. Con carácter general, tres son los tipos de ratios más utilizados por los académicos sobre el tema: ratios de rentabilidad, de endeudamiento y de equilibrio económico-financiero (Tascón y Castaño, 2012; Korol, 2013). Actualmente, se ha constatado una relación entre rentabilidad y liquidez en diversos estudios muy recientes (De Llano et al., 2010), ya que empresas con problemas financieros son menos capaces de acceder a financiación, a recursos financieros externos, lo que supone una mayor presión para generar ingresos, una posible bajada de precios y desequilibrios de caja.

A pesar de la cantidad de estudios existentes hemos seleccionado un indicador que sigue vigente desde hace casi cincuenta años, que es el Z-score de Altman. A partir de la experiencia con empresas en dificultades financieras, se desarrolló un índice a partir de cinco ratios y cinco ponderaciones, con la finalidad de pronosticar la quiebra de las empresas manufactureras que cotizaban en bolsa. Ese modelo se ha ido ajustando con el paso del tiempo y se obtuvo el Z' score para empresas que no cotizaban en mercados secundarios. Dicho modelo tiene la siguiente forma:

$$Z' = 3,107 \frac{\text{Beneficio explotación}}{\text{Activo total}} + 0,998 \frac{\text{Ventas Netas}}{\text{Activo Total}} \\ + 0,420 \frac{\text{Patrimonio Neto}}{\text{Pasivo Total}} + 0,77 \frac{\text{Fondo de Maniobra}}{\text{Activo Total}} \\ + 0,847 \frac{\text{Beneficios Retenidos}}{\text{Activo Total}}$$

Donde Z' es un índice de quiebra. Los resultados de Altman demuestran que en la práctica hay tres zonas diferentes:

- Zona “sana/segura” (safe zone) si el Z' es mayor que 2,9. Esto supone que la empresa estaría lejos de la quiebra. En nuestro modelo le hemos asignado valor 0.
- Zona “gris” (grey zone) si el Z' está entre 1,23 y 2,9 implicaría que la insolvencia sería posible, por lo que la empresa debería tomar medidas para sobrevivir en el siguiente período. En nuestro modelo le hemos dado valor 1.
- Zona “distress” (distress zone) si el Z' es inferior a 1,23 significaría que hay una gran probabilidad de que la empresa quiebre. En nuestro modelo le hemos asignado valor 2.

Altman demuestra que las empresas quebradas y no quebradas tienen perfiles financieros muy diferentes un año antes de la quiebra, hecho que se demuestra en los ratios financieros en los que se basa el modelo de Z-score (Altman, 1993). Posteriormente, se volvió a revisar el modelo para aplicarlo a empresas no manufactureras (Ross et al., 2010).

### **3. Pregunta de la investigación, Variables, Metodología y Muestra**

#### **3.1. Pregunta de investigación y variables**

La viabilidad económica de los CEEs es clave para la supervivencia de los CEEs, a pesar de que sean sin ánimo de lucro, ya que condiciona la normalización de las personas con discapacidad, sus familias y la sociedad en general. De ahí que sea muy importante para este sector de la economía social conocer qué características tienen los CEEs y, de este modo, poder predecir indirectamente el riesgo de quiebra del negocio. Existen diversos trabajos en la literatura que estudian los factores explicativos del éxito en las empresas españolas (Huerta et al., 2012) así como para las PYMES (Rubio y Aragón, 2002), las empresas exportadoras (Landa-Torres, et. al. 2012) o empresas familiares (Sanchez et al. 2009). Sin embargo, se desconocen dichos factores de éxito para los CEEs. Por lo tanto, la pregunta de investigación que motiva este estudio es:

¿Cuáles son las variables que caracterizan a los CEEs con estrés financiero, es decir, aquellos que tienen un Z'-score inferior a 1,23? En consecuencia, podremos hacer patrones para los CEEs que tienen una elevada probabilidad de supervivencia.

Las variables utilizadas para poder estudiar este problema son las siguientes:

-la edad del CEEs, es decir, el número de años desde su fundación hasta el año de referencia de los últimos estados financieros, 2013. En teoría, las empresas que tienen mayor experiencia en el mercado, deberían tener más estrategias para sobrevivir (Blasco y Carrizosa, 2007)

-su tamaño, medido por el número de empleados que tienen contratados. Hay estudios contradictorios con relación a esta variable. Algunos estudios correlacionan positivamente el tamaño con la rentabilidad (González Pérez, 1995), mientras que otros señalan una relación negativa (Illueca y Pastor 1996).

-su localización, es decir, la comunidad autónoma en la que están registrados según su domicilio social. En teoría, casi todas las comunidades autónomas tienen

competencias propias sobre la ley de discapacidad y dependencia. De hecho, según el XIV Dictamen de la Dependencia la aplicación de las políticas para dependientes (incluidos las personas con discapacidad) varía desde un 1,7 de la Comunidad Valencia a un 10 en la Comunidad de Castilla León a la hora de evaluar cómo se atiende a las personas con dependencia.

-la cuantía de las subvenciones de capital que reciben, según su información en el balance de situación de cada empresa. Las subvenciones de capital son no reintegrables y tienen como objeto ser utilizados para ampliar la estructura de capital de la empresa, principalmente, adquirir activos o inmovilizado intangible, material e inversiones inmobiliarias. Al ser no reintegrables, esta variable podría tener influencia sobre la viabilidad económico-financiera de los CEEs. Hay estudios teóricos que justifican que son las ayudas públicas recibidas por los CEEs las que garantizan su viabilidad (Laloma, 2007; Jordán de Urries y Verdugo, 2010).

-el ratio de rentabilidad económica, medido como el resultado de explotación dividido entre el total de sus activos. Es la capacidad económica de los activos de una empresa para generar valor, independiente de cómo han sido financiados. Se puede descomponer en el margen de ventas y la rotación de los activos. Se trata del indicador más utilizado en la literatura sobre viabilidad empresarial, a pesar de sus limitaciones (Rubio y Aragón, 2002; Hull y Rothenberg, 2008).

Adicionalmente al estudio del ratio de rentabilidad económica o ROA, también existen otros ratios utilizados, que son los más referenciados en la literatura sobre predicción de insolvencia. Un estudio pionero de Laitinen (1991) sobre la importancia de esas variables en el proceso de quiebra justifican nuestra elección. Adicionalmente esos ratios reflejan las dimensiones financieras básicas que son importantes según las investigaciones empíricas sobre fracaso empresarial, según Balcaen y Ooghe (2006). Esas dimensiones son el crecimiento, la eficiencia, la rentabilidad, el cash flow, el apalancamiento financiero y la liquidez. Un reciente estudio de Laitinen et al. (2014) avala su uso para la predicción de insolvencias en siete países. Se trata de:

-el ratio de resultado del ejercicio dividido entre la cifra de ventas netas.

-el ratio de cash-flow dividido entre las ventas netas.



-el quick ratio, es decir, el activo corriente o a corto plazo menos las existencias, todo ello dividido entre el pasivo corriente o deudas a corto plazo.

-el ratio de deudas sobre ventas.

- y el equity ratio o ratio de fondos propios sobre total de activo.

Además, también se ha calculado el indicador Z-score de Altman para empresas no cotizadas, tal y como se explicó en el epígrafe anterior. Esta será la variable de decisión en la metodología elegida.

### 3.2. Metodología: algoritmo C4.5.

Los métodos de Inteligencia Artificial (IA) se han convertido en un nuevo enfoque para analizar los problemas financieros (por ejemplo, Serrano y Martín del Brio, 1993; Sanchís et al., 2007; Díaz, et al., 2009, aplicados a datos españoles). De hecho, pueden considerarse que son un complemento, y en algunos casos, un sustituto de métodos estadísticos. En cualquier caso, pueden dar otro punto de vista a los problemas que estamos analizando. En consecuencia, vamos a analizar las variables económico-financieras que caracterizan el fracaso, y por ende, la supervivencia de los centros de empleo protegido utilizando el árbol de decisión C4.5, es decir, vamos a obtener las variables que se asocian a la supervivencia de los CEEs por medio de una herramienta de IA. En nuestro caso sería conocer qué variables económico financieras de las descritas anteriormente se asocian a un Z-Score de quiebra, de zona de duda o de “sanas”. El número de objetos que satisfacen la parte de las condiciones que indica la regla se llama en el argot *fuerza* de la regla y es un concepto útil para validar una regla.

Los árboles de decisión forman parte del denominado aprendizaje automático. De hecho, quizás sean los sistemas de aprendizaje automático más fáciles de utilizar y de entender. Un árbol de decisión puede interpretarse esencialmente como una serie de reglas compactadas para su representación en forma de árbol. Existen varios algoritmos que desarrollan árboles de decisión y lo que diferencia un árbol de decisión de otro es el algoritmo que lo genera. El algoritmo desarrollado por Quinlan

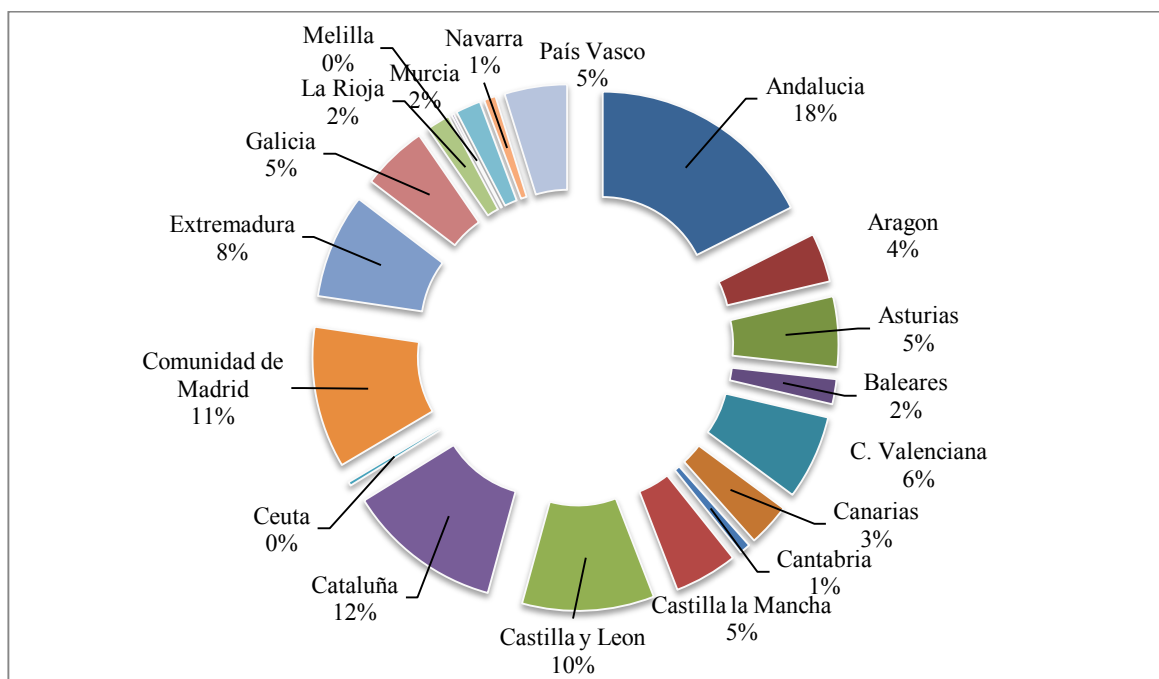
e implantado en el C4.5 (Quinlan, 1993) es probablemente el más popular de entre todos los algoritmos de árboles de decisión. En él, el criterio utilizado para hacer las particiones se apoya en una serie de conceptos procedentes de la Teoría de la Información y ha experimentado a lo largo del tiempo una serie de mejoras notables. Para ver una descripción más detallada véase Quinlan (1993) y Díaz, et al. (2009).

El algoritmo J48 es la implementación en Java de libre acceso del algoritmo C4.5 que contiene el software WEKA. De hecho, WEKA es el paquete de minería de datos desarrollado por la Universidad de Waikato (Witten y Frank, 2005) con el que hemos realizado nuestro análisis.

### 3.3. Muestra

Para conseguir el objetivo del estudio propuesto, se plantea realizar un análisis de los datos económico-financieros de los CEEs, determinando así las variables claves que condicionan su continuidad en el mercado. La muestra inicial son todos los CEEs de España, según los datos disponibles por el Servicio Público de Empleo Estatal en España. Para el año 2013 había 1.894 centros, que ejercían diferentes actividades. Sin embargo, algunos de esos centros se repetían en varias comunidades autónomas, por lo que se procedió a limpiar la base de datos con todos y cada uno de los que estaban repetidos. La muestra obtenida fue de 1.668 CEEs. Las comunidades que están representadas con el mayor número de CEEs son: la Comunidad de Andalucía, con 293 CEEs, lo que representa un 18% del total nacional, Cataluña está en segundo lugar con 199 centros (12% del total), la Comunidad de Madrid está en tercer lugar con 181 centros (11%) y Castilla y León con 169 CEEs (10 %). Comunidad de Extremadura cuenta con el 8 % del total de estas empresas. Lógicamente, Ceuta y Melilla son los territorios que, dada su extensión en tamaño, tienen menos centros (gráfico 1).

**Gráfico 1. Los CEEs por Comunidades Autónomas**



Fuente: elaboración propia.

Una vez seleccionados los centros, hemos utilizado su número de identificación fiscal para acceder a su información contable en la base de datos de estados financieros de empresas SABI<sup>4</sup>. No ha sido posible encontrar la información para todos los CEEs de la muestra. Inicialmente se han utilizado los datos económico-financieros del año 2013, último año disponible en la actualidad. La muestra final se compone de los estados financieros de 528 empresas de las 1.668 existentes, lo que supone un 27,8 por 100 de los CEEs.

Las características principales de nuestra muestra final se pueden observar en la tabla 1. La edad media de los CEEs de la muestra son 11 años, con una desviación típica de 6,8 años. Es decir, la mayoría de los CEEs tiene experiencia en el mercado, no son las empresas recién creadas. Su número medio de trabajadores es de 84, lo que supone que son centros con una gran concentración de trabajadores discapacitados, si bien su desviación es muy grande. La media de subvenciones de capital recibidas por los CEEs de la muestra final es de 97.389,80 euros. Sin embargo, hay un total de 269

<sup>4</sup> Para más información véase <http://www.bvdinfo.com/en-gb/our-products/company-information/national-products/sabi>

centros que no reciben subvenciones (frente a 259 que sí reciben ayudas públicas), según se recoge en sus balances de situación. Es conveniente aclarar que todos los CEEs reciben subvenciones de explotación en forma de bonificaciones del 100% de la seguridad social de los trabajadores discapacitados y el 50% del salario mínimo interprofesional, con la finalidad de compensar su posible falta de “eficiencia” en comparación con otras empresas del mercado que no son CEEs. Sin embargo, todos los CEEs reciben esas subvenciones, lo que no supone una ventaja competitiva para ninguno de ellos. Por el contrario, las subvenciones de capital sí que son diferentes dependiendo de cada CEEs.

**Tabla 1. Estadísticos descriptivos**

	<b>Mínimo</b>	<b>Máximo</b>	<b>Media</b>	<b>Desviación típica</b>
EDAD	1	56	10,93	6,89
TAMAÑO (No. Empleados)	1	9625	83,90	501,97
SUBVENCIONES	0	9.101.399,96	97.389,81	507.003,66
(1) ROA %	-224,25	308,67	1,49	26,81
(2) Resultado/Ventas netas	-2,37	2,72	-0,01	0,33
(3) Cash flow/Ventas netas	-1,64	3,07	0,04	0,32
(4) Quick ratio	0,01	80,23	2,55	4,79
(5) Deudas/ventas netas	0,039	47,16	1,18	3,15
(6) Equity ratio	-5,46	0,98	0,32	0,63

Fuente: elaboración propia.

En cuanto a la rentabilidad económica media de los CEEs es de casi 1,5%, aunque con una elevada desviación estándar. El ratio medio del resultado del ejercicio sobre las ventas netas realizadas es negativo aunque casi cero, al igual que el cash flow. Eso supone que estas empresas no generan mucha liquidez y que sus resultados netos medios no son elevados. La explicación de tener una rentabilidad económica positiva, por término medio, y un resultado neto negativo puede deberse a los gastos financieros de las deudas medias acumuladas por los CEEs. El ratio medio de deudas sobre ventas netas es de 1,18 lo que supone que de cada 100 euros de ventas netas, la

deuda de estas empresas asciende a 118 euros. Sin embargo, el quick ratio (activos corrientes deducido el inventario dividido entre los pasivos corrientes) asciende, por término medio, a 2,55. Esto supone que la media de los CEEs de la muestra no está muy endeudada a corto plazo, ya que con el efectivo disponible y sus derechos de cobro pueden pagar casi tres veces sus deudas a corto plazo. En cuanto al ratio de financiación propia o equity ratio señalar que cada 100 euros de activo invertidos, 32 euros están autofinanciados. Esto supone que como media un tercio de los recursos de la empresa están financiados con recursos propios.

En cuanto al indicador Z'-score, los CEEs de la muestra final se distribuyen de la siguiente forma: hay 86 CEEs en la zona segura, 276 en la zona dudosa y 166 que tienen una elevada probabilidad de riesgo de insolvencia. Como hay pocos CEEs en la zona segura, hemos analizado con más detalle los que están dudosos o tienen una elevada probabilidad de insolvencia. Aquellos que no cumplan estas características, serán los centros que tienen lógicamente más probabilidad de supervivencia en el mercado.

#### **4. Resultados y Discusión**

De esta forma, definidas las variables del modelo en la sección 3.1. como ha quedado explicado anteriormente, se ha obtenido una tabla de información formada por 528 CEEs y sus correspondientes valores para cada una de las 10 variables señaladas. Dicha tabla ha sido introducida en WEKA, con el que hemos desarrollado el análisis del C4.5.

Los resultados del modelo según la salida del programa pueden verse en la figura 1. En ella, se han resaltado en color gris las ramas más fuertes para cada clase (0, 1, 2), es decir que verifican un mayor número de CEEs.

**Figura 1. Árbol obtenido con el algoritmo C4.5.**

J48 pruned tree

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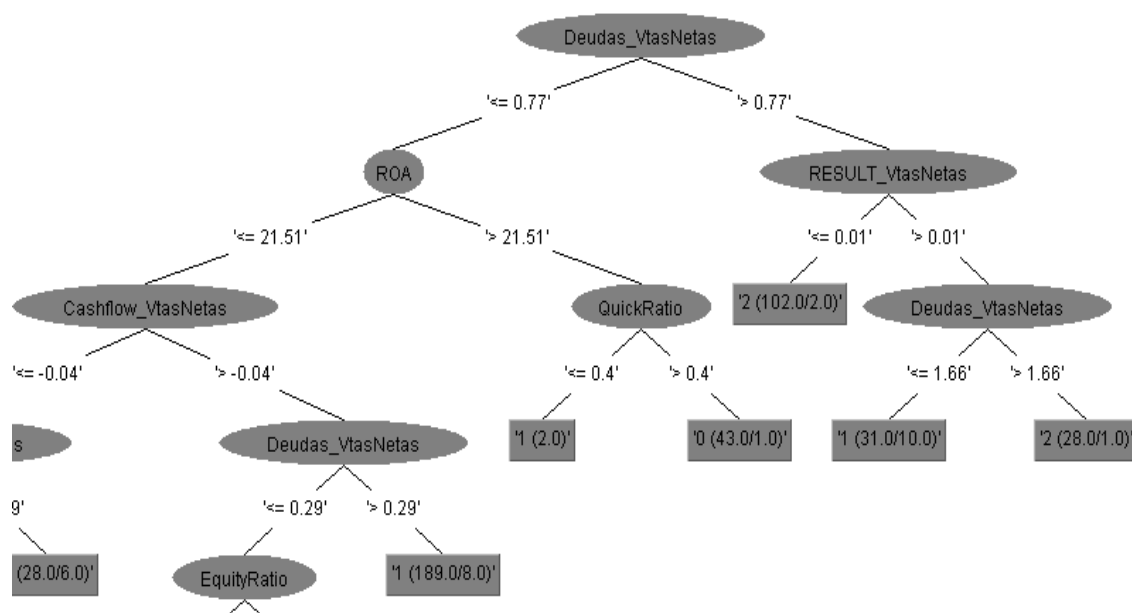
Deudas_VtasNetas <= 0.77
|   ROA <= 21.51
|   |   Cashflow_VtasNetas <= -0.04
|   |   |   Deudas_VtasNetas <= 0.29
|   |   |   |   TAMAÑO <= 16: 0 (2.0/1.0)
|   |   |   |   TAMAÑO > 16: 1 (7.0)
|   |   |   Deudas_VtasNetas > 0.29: 2 (28.0/6.0)
|   |   Cashflow_VtasNetas > -0.04
|   |   |   Deudas_VtasNetas <= 0.29
|   |   |   |   EquityRatio <= 0.58: 0 (23.0/4.0)
|   |   |   |   EquityRatio > 0.58
|   |   |   |   |   EquityRatio <= 0.8
|   |   |   |   |   |   Deudas_VtasNetas <= 0.18: 0 (12.0)
|   |   |   |   |   |   Deudas_VtasNetas > 0.18: 1 (23.0/1.0)
|   |   |   |   |   EquityRatio > 0.8
|   |   |   |   |   |   ROA <= 10.28: 1 (26.0/1.0)
|   |   |   |   |   |   ROA > 10.28
|   |   |   |   |   |   |   Deudas_VtasNetas <= 0.12: 0 (6.0)
|   |   |   |   |   |   |   Deudas_VtasNetas > 0.12: 1 (6.0/1.0)
|   |   |   |   |   Deudas_VtasNetas > 0.29: 1 (189.0/8.0)
|   ROA > 21.51
|   |   QuickRatio <= 0.4: 1 (2.0)
|   |   QuickRatio > 0.4: 0 (43.0/1.0)
Deudas_VtasNetas > 0.77
|   RESULT_VtasNetas <= 0.01: 2 (102.0/2.0)
|   RESULT_VtasNetas > 0.01
|   |   Deudas_VtasNetas <= 1.66: 1 (31.0/10.0)
|   |   Deudas_VtasNetas > 1.66: 2 (28.0/1.0)

```

Fuente: elaboración propia.

La figura 2 representa los resultados correspondientes a las reglas más fuertes (aquellas sombreadas en la figura 1) del árbol generado por el algoritmo C4.5.

**Figura 2. Sección árbol obtenido con el algoritmo C4.5 para las reglas más fuertes.**



Fuente: elaboración propia.

Los buenos resultados en términos de validación cruzada 85%<sup>5</sup> justifican el análisis de los patrones que nos muestra el árbol. Las ramas que más CEEs verifican (más fuertes en el argot) son las que se deben interpretar, ya que reflejarían patrones ciertos al estar refrendados por un gran número de casos. Vamos a ir analizando las ramas más fuertes para cada una de las tres categorías que, según el Z-Score, hemos clasificado los CEEs. Para ello, nos centraremos en las empresas con estrés financiero.

<sup>5</sup> La *Validación-cruzada* es un procedimiento que consiste en hacer numerosas particiones de igual tamaño en los datos, dejando unas para estimar el modelo y las restantes para validar. El proceso se repite tantas veces como particiones hayamos hecho, y vamos cambiando las que sirven para estimar de las que sirven para validar. El resultado final es la media de todos los resultados obtenidos. El resultado obtenido es para una validación cruzada para 10 particiones, que es la más habitual.

La clase que hemos denominada 2 es la que en Z'-score se corresponde con las empresas insolventes, que son un total de 166 CEEs. A esta clase corresponden dos ramas:

- Si el ratio de deudas/ventas netas es superior a 0,77 y el ratio del resultado/ventas netas inferior o igual a 0,01, entonces el CEEs es insolvente. Esta regla la verifican 102 CEEs, con dos errores (102/2 en el árbol).
- Si el ratio de deudas/ventas netas es superior a 0,77 y el ratio resultado/ventas netas superior a 0,01 (caso contrario al anterior), entonces sólo aquellas cuyo ratio de deuda/ventas netas sean superiores a 1,66 serán solventes. Esta regla la verifican 28 CEEs con un error.

Teniendo en cuenta los errores y aciertos de estas dos reglas, un 76% de los CEEs insolventes las verifican.

Por el contrario, la clase denominada 0 corresponde a un Z'-score de CEEs solventes. Para las empresas solventes tenemos una única regla significativa dado que la verifican 43 empresas (con un error), lo que representaría un 50% de las clasificadas como solventes. Esta rama indica que si el ratio deudas/ventas netas es inferior o igual a 0,77, el ROA es superior a 21,51 y el quick ratio superior a 0,4, el CEEs es solvente.

Finalmente, la rama más complicada es lógicamente la que corresponde a la clase 1 o zona de duda según el Z'-score de Altman. Esta rama sería la siguiente: Si el ratio de deudas sobre ventas netas es inferior o igual a 0,77; el ROA es inferior o igual a 21,51; el ratio de cash-flow sobre ventas netas es superior o igual a -0,04, entonces solo aquellas cuyo ratio de deudas sobre ventas netas sea superior a 0,29 pertenecerían a la región de duda. Esta regla la verifican 189 empresa, habiendo 8 errores. Teniendo en cuenta tanto los errores como los aciertos, esta regla la verifican un 66% de las empresas clasificadas por el Z- SCORE en la zona gris. Lo cual corrobora la dificultad de tratar de sacar patrones para esta zona de duda.

En consecuencia, analizando las reglas se desprende que de cara a la gestión de los CEEs y en concreto para el análisis de la solvencia, son los ratios de deudas sobre



ventas netas, la rentabilidad económica y el test ácido son los variables a tener en cuenta y con los patrones que muestran las reglas.

Adicionalmente, como resultados interesantes, podemos destacar que la variable subvenciones no aparece en el modelo. Esto implica que no son determinantes para la viabilidad de los CEEs, al contrario de lo expuesto por diversos estudios teóricos, entre otros, Laloma (2007) y Jordán de Urríes y Verdugo (2010). Además, la edad de la empresa tampoco es relevante en el modelo, al contrario de lo que expone la literatura que señala a mayor experiencia en el mercado, más probabilidades de supervivencia (Blasco y Carrizosa, 2007). El tamaño de los CEEs tampoco es clave, ya que aparece solo en dos ramas con poca fuerza (2 casos para las empresas con estrés financiero y 7 casos para la insolvencia dudosa). Sin embargo, este resultado contradice a lo expuesto por Huerta et al. (2012) para el caso los factores de éxito de las empresas españolas, entre los que figura el tamaño. Para el caso particular de los CEEs, su tamaño no es relevante para su fracaso inmediato. Por último, otra variable que tampoco afecta a la viabilidad futura de los CEEs es su localización. Según el modelo obtenido con el algoritmo C4.5, las comunidades autónomas y sus regulaciones particulares no condicionan el fracaso de un CEEs. Esto es relevante ya que de cara a la gestión, es independiente donde se sitúe el CEEs. Es más importante su gestión empresarial desde el punto de vista del endeudamiento, las ventas, el resultado y su ROA.

## **5. Implicaciones para la Gestión de los CEEs**

El objetivo de este estudio es el análisis de los patrones de fracaso y, por ende supervivencia de los CEEs en España, para ayudar a la gestión de este tipo de empresas. La primera conclusión es que no se trata de un problema sencillo. Sin embargo, la aplicación de herramientas de IA simplifica el problema ya que con muy pocas variables se pueden modelizar los CEEs en las tres categorías del Z'-score (zona de empresas sanas, dudosas y en estrés financiero).

En segundo lugar, la cuantía de las subvenciones públicas recibidas no condiciona la viabilidad futura de los CEEs. Es decir, que la recepción de ayudas públicas no es

determinante para su supervivencia. Para una situación de crisis económica como la actual, en la que muchas comunidades autónomas y municipios están reduciendo la cuantía y el número de subvenciones, el que no condicionen su viabilidad es muy relevante. Tampoco la localización de un centro en una u otra comunidad autónoma condiciona su futuro. El tamaño medido en número de empleados tampoco es relevante para su viabilidad futura. Por el contrario, las variables que sí condicionan el futuro de los CEEs son, esencialmente, el porcentaje de deudas sobre ventas y el porcentaje del resultado sobre ventas. De ahí que los gerentes de los CEEs tienen que tener especial cuidado en estos factores, si quieren garantizar la viabilidad futura de los CEEs.

Este estudio no está exento de limitaciones. En primer lugar, al utilizar datos financieros actualizados, solo hemos usado los del año 2013. En un futuro se espera analizar una serie de datos temporales de los CEEs en España. Además, se ha utilizado una única metodología. En un futuro se espera poder aplicar diferentes metodologías para hacer nuestros resultados más robustos. Por último, hemos seleccionado el indicador Z'-score de Altman, con las limitaciones que presenta al tratarse en otro contexto y con otro tipo de empresas a la idea original. Futuros análisis utilizarán otros indicadores diferentes para ratificar nuestros resultados.

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## **Capítulo 3**

### **The Profitability of Socially Responsible Companies: Public Subsidies for Sheltered Employment Centers**

#### **1. Introduction to the chapter**

In times of economic crisis, more than ever, companies recognize the impact of their activities in the society in which are developing their businesses, openly acknowledge their corporate social responsibility (CSR). CSR is considered part of their identity and most of the times is focused on helping the most disadvantaged sectors (Server and Vicedo, 2009; Chumaceiro, Hernández and Ziritt, 2013). Companies that practice CSR are most attractive to their customers and, at certain times, CSR becomes a strategy to reduce their financial risk (Orlitzky and Benjamin, 2001). They also have other advantages in the market, such as competitiveness, better social image, high customer loyalty and higher performance (Orlitzky, Schmidt and Rynes, 2003; Garcia and Llorente, 2009). The results obtained to date suggest that there is generally a clear positive association between CSR and financial performance (Orlitzky et al., 2003; Pelozo, 2009).

In Spain sheltered employment centers are socially responsible companies because they play an important role for society in helping people with disabilities to enter into the labour market but also in a normal life. A sheltered employment center is a business in which at least 70% of their workers are disabled people (with a disability degree higher than 33%) and because they are being responsible companies, they receive public financial aid for its creation, for business payments for social security, for maintenance of jobs, etc. (Royal Decree 2273/1985 of 4<sup>th</sup> December). Prior literature has shown the interest of this kind of firms because they have grown even with the economic crisis in some regions of Spain (Redondo and Martín, 2014). This is an important issue because with the economic downturn, many governments (national, regional or even municipalities) have reduced their public subsidies for these firms but they have even been increasing their number. Subsidies remain as a very important factor for the growth and profitability of sheltered employment

centers. In consequence some theoretical studies point out that the key to success of these types of company could be the financial aid that they receive continuously for finding work for disabled people (Laloma, 2007; Jordán de Urriés and Verdugo, 2010).

Bearing all these things in mind, the objective of this paper is to test whether the sheltered employment centers which receive public subsidies obtained better profitability (measured as return on assets), on average, than firms that do not receive government subsidies. They are also competitive in the market and they are doing well in the field of CSR. Several papers have studied its evolution and its importance for people with disabilities (Laloma 2007; Cueto et al., 2008; Rodriguez, García and Toharia, 2009; Jordán de Urriés and Verdugo, 2010; Camacho-Miñano and Perez, 2012), but there is still a lack of information about their economic viability and profitability in the market except the study of Redondo and Martín (2014) but only for one region: Castilla and León. From this fact, the following hypothesis is presented:

H: The sheltered employment center which receives public subsidies, obtained better profitability measured as return on assets ratio, on average, than firms that do not receive subsidies.

According to theoretical studies consulted, the hypothesis should be positive, i.e., that the sheltered employment center with subsidies would be more profitable than those which do not receive public aids. Additionally, we want to classify the solvent and insolvent centers according to their main financial variables in order to check the key variable for their survival at the market.

The main contribution of this paper is to provide evidence that sheltered employment centers, on average, are productive enterprises in which their profitability is not conditioned by public aid granted. Additionally, the key variable to analyze the profitability of these centers in order to classify the sheltered employment centers as solvent or insolvent is the interest coverage ratio. It means that those firms that can pay their interest expenses with the operating profits generated will be solvent.

The rest of the paper is organized as follows. The Section below details the methodology used to gather evidence in order to test our hypothesis. It also describes the sample selection procedure. Then we present and discuss the empirical results and, finally, conclude this research highlighting its main implications and limitations.

## **2. Subjects and Methods**

According to the literature review, there are few studies on the economic and financial viability of sheltered employment centers in Spain (Redondo and Martín, 2014). For this reason, a viability analysis of these companies in particular is needed. Due to the difficulties in accessing their data, we select all the sheltered employment centers in Madrid. Data have been collected through the webpage of the autonomous community of Madrid. There were 180 sheltered employment centers, which carried out different activities, as shown in Table 1. The activities of cleaning, handling and consultancy companies are the aim of these businesses. They are routine tasks that mostly tend to be performed very competently by disabled workers.



**Table 1. The sheltered employment centers of the Community of Madrid by activity**

	2011
Artistic, recreational and entertainment activities	4
Agriculture and livestock	4
Food and hotel industry	6
Graphic arts and related services	8
Automobile and related activities	4
Consulting business management, advertising and other business services	29
Waste management	3
Gardening	14
Cleaning and maintenance	46
Manipulated trade and industry	38
Health and social services	10
Information services	14
<b>TOTAL</b>	<b>180</b>

Source: Own formulation based on the data of National Institute of Employment (2011) and the webpage of Community of Madrid.

Then, we use the fiscal number of those centers in order to search for their financial information in the commercial database SABI. As would be expected at the beginning of the research process, it has not been possible to collect data of all these centers in Madrid. Finally, we could access to collect the information from the financial statements of 100 companies from the existing 180 ones. This sets the final sample for this study.

The financial and economic variables used in our study are the followings. The dependent variable is the financial profitability or economic viability measured as return on assets (as explanatory variable). The independent variables are explained in table 2:

**Table 2. Variables used in our study**

<i><b>Independent variables</b></i>	<i><b>Definition</b></i>
AGE	Number of years since the firm was founded
E	Equity
NE	Number of employees
RS	Non-current assets/ Equity
RL (%)	Current ratio: Current asset/current liability
RLI(%)	Quick ratio: (Current assets-inventory) /current liability
RE(%)	Indebtness ratio: Liabilities/(Liabilities+Equity)
RCI	Interest coverage ratio: EBIT <sup>6</sup> /Interest expenses
RAV(%)	Cash Flow/Net sales
RAA(%)	Cash Flow/total assets
S	Subsidies (1=yes; 0=no)
<b>Dependent Variable</b>	(Profitability Ratio: 1-positive; 0-otherwise)
ROA	Return on assets: Net income/total asset

Source: Own elaboration.

The subsidies variable was converted into a dummy variable in order to test our hypothesis. During the year 2011, there were 51 sheltered employment centers which had received public aid and 49 without subsidies. These data was processed statistically. A linear regression and a t-test are used to test our hypothesis. Additionally, we use a robust test with artificial intelligence (AI) methodology, in order to confirm our prior results. AI methods have become a new approach to analyze financial problems (for example, Serrano and Martin del Brio, 1993; Sanchis et al., 2007; Diaz, Sanchis and Segovia, 2009, all of them applied for Spanish data). Indeed, AI methods are a complement, and in some cases, a substitute for statistical

<sup>6</sup> EBIT: Earnings before interest and taxes

methods. In any case, they can give another point of view to the problems we are analyzing.

Consequently, we are going to study the role of the subsidies in the profitability of sheltered employment centers using the PART algorithm, that is, we will obtain the key variables to analyze the profitability of our data sample by means of an AI tool. The PART results generate decision rules and they have the following form: “if conditions, then decisions”, that is, what decisions (actions) should be undertaken when some conditions are satisfied. The number of objects that satisfy the condition part of the rule is called the strength of the rule and is a useful concept to validate a rule.

In short, we can define the PART algorithm as a rule-learning algorithm based on partial decision trees (Witten and Frank, 2005). It represents a hybrid alternative approach to decision list induction and the decision tree learning (Díaz et al. 2009). Its main advantage over other schemes is not performance but simplicity: PART builds a partial decision tree (that is, an ordinary decision tree that contains branches to undefined sub-trees) instead of a fully explored one; once this sub-tree has been found, tree-building ceases and a single rule is read off. PART aims at the most general rule by choosing the leaf that covers the greatest number of instances. Part Algorithm has been performed using free data mining package WEKA from the University of Waikato (Witten and Frank 2005).

### **3. Results and discussion**

The main objective of this study is to test whether the sheltered employment centers which receive public subsidies obtained better profitability, on average, than those firms that do not receive government subsidies. During the year 2011, from 100 centers with available data, 51 received public aid. We can see in table 3 the mean and standard deviation of return of assets (ROA) divided by those with and without public subsidies. The first interesting result is that the means of both subsamples are positive. It is important because it shows that the sheltered employment centers in Madrid are profitable. The second interesting result is that the profitability of sheltered employment centers without public aids is higher (2.66%) than those which received public financial helps (1.72%). However, the standard deviation is very high

for both subsamples. It means that there are a lot of dispersions of data because the range is very high in both cases.

**Table 3. Descriptive statistics**

		N	Mean	Standard deviation	Standard error of mean
ROA	Without public aid	49	2.66	17.62	2,52
	With public aid	51	1.72	18.19	2,55

Source: own elaboration

The next step is to analyze if those differences between firms with and without financial aids or subsidies are statistically significant. For testing the hypothesis, we use the t-test method. The results are shown in Table 4.

**Table 4. Results of t-test for mean differences**

		Levene test for the equality of variances		T-test for equality of means	
		F	Sig.	t	Sig. (bilateral)
ROA	Equal variances are assumed	0.08	0.76	0.26	0.79
	Equal variances are not assumed			0.26	0.79

Source: own elaboration

This prior result confirms that there is not enough evidence of equality of means because the p-value (0.79) is not significant due to it being higher than 0.05. For this reason there are no statistically significant differences in the economic profitability (ROA) between the centers with and without public aids.

Additionally, we want to know the key variables to justify the profitability or not of these special companies using IA methods. We have transformed the dependent

variable in dummy, 1 (profitable center) if companies have a positive ROA and 0 (unprofitable center) otherwise. Table 5 shows the decision list:

**Table 5. PART results**

*If Interest coverage ratio  $> -0.33$  and Equity  $> 2335$  and ratio cash flow/sales  $> 0$  then 1 (profitable center). Strength 48*

*If Interest coverage ratio  $\leq -0.33$  then 0 (unprofitable center). Strength 33.*

Source: own elaboration

We can read them as:

“If the interest coverage ratio is higher than -0.33, the equity amount is higher than 2,335€ and the ratio cash flow divided by sales positive, then the sheltered employment centers belong to the profitable class”. This rule (pattern) is satisfied by 48 cases (strength).

“If the interest coverage ratio is less than or equal to -0.33, then the sheltered employment centers belong to the unprofitable class“. This rule (pattern) is satisfied by 33 centres (strength).

We have validated the algorithm before proceeding to analyze it. We have obtained a 91.95% share of correct classified firms in terms of classification with cross validation procedure<sup>7</sup>. Therefore, the results obtained are quite satisfactory in terms of classification and they allow us to interpret the rules to draw the following conclusions:

- A subsidy variable does not appear in any rule. Therefore it is not a key variable to analyze the profitability of sheltered employment centers in

<sup>7</sup> Cross-Validation is a statistical method of evaluating and comparing learning algorithms by dividing data into two segments: one used to learn or train a model and the other used to validate the model. (<http://leitang.net/papers/ency-cross-validation.pdf>)

Madrid. We obtained the same results with different methodology, which means that our results are robust.

- As we can see, only three variables are necessary to classify the sheltered employment centers in the solvent or insolvent groups: the interest coverage ratio, the equity amount and the ratio cash flow to sales.

The AI results confirm the statistical ones: Subsidies are not a discriminatory variable for this type of firms in relation to its profitability. This means that the sheltered employment centers which receive public subsidies do not obtain better profitability measured as return on assets ratio, on average, than firms that do not receive subsidies. The public subsidies are not a factor to condition the profitability of sheltered employment centers. There are profitable businesses even without public subsidies, although these financial helps are needed to improve the labour life of disabled people.

#### **4. Conclusions**

The interest in the sheltered employment centers is growing due to their role in society and the performances that they are showing despite the current economic crisis. Our study is based on the analysis of their profitability and relationship with public subsidies: grants, donations and bequests received. Prior literature shows a dearth of economic studies on these lucrative enterprises that have a special relevance in society by integrating work and socially disabled people.

The objective of this study is to show whether they are profitable enterprises economically with or without public aid and if subsidies are keys to their profitability. The main conclusion that has been shown, despite the claims made in a theoretical way, is that the sheltered employment centers, on average, are productive companies since their profitability is not dependent on public subsidies. It is also noted that the profitability of these centers depends on their interest coverage ratio, equity and cash-flow/sales. Indeed, these firms are a referent in corporate social responsibility and they could serve for developing other socially responsible firms. Furthermore, the impact of sheltered employment centers is very positive for society because apart

from profitability terms, they are going to work in favor of the social and labour integration of disabled people. In consequence, governments should boost this kind of business as a way to improve the life of people with disabilities and their families. Medical and social expenses could be offset with the normalization of employment for disabled workers.

Finally, we consider necessary and interesting this type of economic and financial research on these businesses, firms with a great social importance, given the lack of such studies in the current academic literature. This study will also serve to give academic and social visibility to such enterprises, as well as to highlight the important work carried out to create a better society every day for everyone.

However, this study is not free of limitations. The sample is focused on only one region of Spain. Future studies should be done using the whole number of sheltered employment centers in Spain. Additionally, we only test the impact of subsidies on their profitability. Perhaps there are other factors that could condition their return on assets. Future research should be carried out in this line.

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## **Capítulo 4**

### **Economic and Financial Viability of a Particular Case of Social Firms: Sheltered Employment Centers**

#### **1. Introduction to the chapter**

Sheltered employment centers (CEEs) are special firms because its workforce is made up of at least 70% of people with disabilities, according to the Spanish Law for disabled people (Spanish Act of Social Integration of Disabled people (LISMI). Article 42 of Law 13/1982, dated April 7). They are important companies for the society and especially for disabled people due to the elimination of labour and social inclusion barriers (Calvo, 2004). The role played by CEEs in the social economy of our country is important because 12% jobs created in this sector are generated by those companies (KPMG, 2014). Furthermore, CEEs have more stable jobs for workers with disabilities than ordinary companies (Rodríguez and Cueto, 2013).

During years the role, evolution, importance, wage differentials and other global aspects of CEEs have been studied (Visier, 1998; Rubio, 2003; Laloma, 2007; Manzano and Redondo, 2014; Jordán de Urries and Verdugo, 2010; Rodríguez et al., 2012; López et al., 2014; Gelashvili et al., 2015a ,b), but their economic and financial aspects have not been investigated in depth. In the last five years some empirical studies have researched about the level of economic impact generated by CEEs in different regions of Spain (Manzano and Redondo, 2014; López et al., 2014; Gelashvili et al., 2015a) but none of them used data for all CEEs of Spain.

Apart from the special kind of workers in CEEs, there is another characteristic difference from normal companies. CEEs can receive public subsidies. According to the Law 13/1982, dated April 7 (LISMI), CEEs receive public subsidies for the labour insertion of people with disability. Those subsidies provided to these entities represent important economic flows for them (López et al., 2014). Those grants are received in different ways, such as: discounts to the companies' social security contributions,

subsidies to adapt workstations, new investments, etc. (Mallender et al., 2015). Thus, some authors point out that these public subsidies could determine their success at the labour market (Laloma, 2007; Jordán de Urries and Verdugo, 2010). However, there is no empirical study that tests this affirmation.

Bearing all these things in mind, the aim of this study is to analyse what variables are the main ones to perform their economic and financial viability successfully and test the principal empirical assumptions about these specific firms such as the role of official subsidies or the impact of the economic crisis in their viability. The main contribution of this study is that localization and industry of the CEEs together with liquidity ratio and average sales per employee are determinant variables of the CEEs profitability. Moreover, the economic crisis has conditioned their viability.

This paper is organized as follows: the second section includes the literature review about CEEs and the importance of financial viability of these companies. We show the research questions proposed for this research in section 3. The sample of the research, methodology and variables of study are shown in the fourth section. The results of the financial data analysis and our main conclusions are presented in the fifth and sixth sections.

## **2. Literature review**

### **2.1. Firms' viability**

The viability of a company is studied from their quantitative and qualitative data and the success or failure of a company depends on many factors. The profitability of enterprises is essential for their viability. Indeed, this topic about the factors that have impact on the profitability of a company has been studied in some papers such as Schmalensee (1985), Rumelt (1991), Fernández et al. (1996); Claver et al. (2002), González et al. (2002) and Cortés et al. (2011). According to Claver et al. (2002) the profitability of a firm depends on the resources and capabilities of each company, making them different from others, but not only because it is essential the management of these resources and capabilities for determining their success or

failure. Some other studies have pointed out that the profitability of companies depends on their employees' capacity for teamwork, training and skills (Claver et al., 2002; Rubio and Aragón, 2002; Isaac et al., 2009), on their size (Suárez, 2000) or on the sector of their activities (Iglesias et al., 2006). Prior literature present different economic and financial variables such as: solvency, liquidation, borrowed funds, share of external funding, asset turnover, the sales margin, asset rotation, debt, funds generated by sales, etc for profitability of different type of companies (Fernández and García, 1991; Fernández et al., 1996; Suárez, 2000; González et al., 2002; Isaac et al., 2009; Cortés et al., 2011). Fariñas and Rodríguez Romero (1986) analyse the future viability of companies provided from different countries and pointed out that their profitability depends on their nationality as well. Another variable that also influences the profitability of the company is their level of corporate social responsibility (CRS) (Waddock and Graves, 1997; Tsoutsoura, 2004; Mahbuba and Farzana, 2013). A recent study of Shahzad and Sharfman (2015) has also detected a positive relationship between corporate social responsibility and firms' financial performance.

There are some studies about the economic and financial viability and profitability of SMEs or even family enterprises (Claver et al., 2002; González et al., 2002; Luengo et al., 2005; Isaac et al., 2009; Cortés et al., 2011). One of the main conclusion of those studies is that for SMEs profitability has become the most common financial indicator to measure the level of success or failure in business management (González et al., 2002). Moreover, the recent financial crisis impends the survival of many companies (Isaac et al., 2009; Carmona et al., 2013) and the profitability is one of the most important variable for long-term survival in order to evaluate the profitability of any company. Thus, summarising the profitability of a company is a key indicator of its efficiency, because any relevant aspect of the activity of the company is reflected on it (Sánchez and García, 2003). At the same time, enterprises must plan their future and a concrete appropriate profitability allows them to improve their competitive position (González et al., 2002; Isaac et al., 2009). Most of these studies about the profitability of enterprises conclude that economic profitability is a determining factor that allows enterprises surviving at the market and being competitive.

To the best of our knowledge, there is no study about the economic viability of CEEs although there are for other special firms such as cooperatives or family enterprises (Dekker et al. 2012; Perez and Serrano, 2013).

## 2.2. Sheltered workshop and CEEs in Spain: literature review

Over the years much has been written about sheltered workshops (Gersuny and Lefton, 1970; Whitehead, 1979; Brickey et al., 1982; Whitehead, 1987; Rosen et al., 1993; Visier, 1998; Martin, 2002; Krupa et al., 2003; Migliore et al., 2007, 2010; Evert et al., 2012; Hoffman, 2013; Mallender et al., 2015). At the beginning they were developed by charities or religious organizations (Migliore, 2010), but during the years the tasks and definition of sheltered workshops have been changed (Malo, 2003; Galer, 2014). Sheltered workshops are defined as “entities which specifically employ disabled people and receive subsidies in compensation for the reduced productivity of their workforce” (Mallender et al., 2015). The aim of sheltered workshops is to help unemployment people with disabilities to “prepare” and become competitively employed within the community (Evert et al., 2012). With social and labour integration, the rehabilitation of people with disability is also the main issue for sheltered workshops (Visier, 1998; Mallender et al., 2015).

Different countries have diverse systems of employability and social-labour inclusion of people with disabilities (Visier, 1998). For example, most European countries have quota obligation systems (Greve, 2009), sheltered workshops, supported employment for people with disability (Egido et al., 2009; Mallender et al., 2015) etc. For our study we will analyse the whole sample of Spanish CEEs. For their economic and social importance, CEEs are referring of social enterprises at the European level (López et al., 2014). The studies about CEEs in Spain analysed how the management of these enterprises works (Cueto et al., 2008; Gimenez et al., 2012; López et al., 2014), what their main objectives are (Martínez, 2009; Jordán de Urríes and Verdugo, 2010) or how the number of employers with disability has grown during last years (Gimenez et al., 2012; KPMG, 2014; Díaz-Foncea and Marcuello, 2014).

Although there are many studies on different topics of CEEs (Cueto et al., 2008; Calderón and Calderón, 2012; Rodríguez et al., 2012; López et al., 2014), but it is especially notable the lack of literature on the economic and financial viability and

profitability of these centres (Manzano and Redondo, 2014; Gelashvili et al., 2015a, b). Thus, it is important to know how the management of these centers working and what factors determine their economic and financial viability.

The first study carried out about the profitability of CEEs was done by Manzano and Redondo (2014). This study analyses 103 CEEs of Castilla-León, a region of Spain. Principal findings show that in Castilla y León there are a large number of private CEEs, dominating, especially, the small and medium-sized centres. For statistical analyses they used cluster analysis and draw the conclusion that the CEEs are able to obtain positive results as other ordinary companies.

López et al. (2014) analysed whether the level of economic impact generated by the CEEs depends on the kind of activities they are devoted to. The sample for the research was 66 CEEs of Aragón, another specific region of Spain. Their results have shown that the level of economic impact of CEEs depended only on their business activities. Their social activities are not linked to their economic impact, although those social activities are essential due to its aim.

The study carried out by Gelashvili et al. (2015a) analysed 100 CEEs in the region of Madrid. The main objective of this paper was to know whether public subsidies were one of the main factors to determine their profitability. Their results showed that the CEEs can be productive enterprises, on average, without public grants.

To the best of our knowledge, there is no empirical study which analyses the economic and financial viability of CEEs using all CEEs of Spain as a whole sample. At the same time public subsidies are an important variable and it is interesting to show if it can influence on its profitability and viability. Another issue is that there are additional subsidies in each autonomous communities in which each CEE is located (Laloma, 2007), so it is possible that using all CEEs financial data, the results of previous research may change.

### **3. Research questions**

Prior literature has been written about the influence of size, sector and localization on profitability (Fariñas and Rodríguez Romero, 1986; González Perez, 1997 Suárez,

2000; Sanchez and García, 2003; Iglesias et al., 2006). Sanchez and García (2003) points out that the competitive advantages help to larger companies to have better profitability, while the flexibility and adaptability of SMEs allow them to obtain better performance. A study about integration companies shows that the success of these companies depends on their localization and the sector of their activities (Retolaza et al., 2007). In addition, some studies have highlighted that public subsidies may play an important role in economic viability of CEEs (Laloma, 2007; Jordán de Urríes and Verdugo, 2010). In case of the CEEs, it would be important to know the effect of these three important variables on their profitability. Thus, our research question is presented as follows:

***RQ 1: What are the main financial factors that determine the profitability of CEEs?***

The current economic and financial crisis and its expansion over time force to the companies to survive with the social and economic circumstances (Carmona et al., 2013). Despite the crisis environment around them, CEEs are being able to create and maintain workplaces for people with disability (Manzano and Redondo, 2014). Also, the evolution of CEEs shows that the number of CEEs has increased during the time of the crisis (Gelashvili et al., 2015b), meanwhile the economic crisis has punished SMEs in Europe (Kokocinska and Rekowski, 2013). From here, the next research question arises:

***RQ 2: Has the economic crisis conditioned the profitability of CEEs?***

In the next section the sample, variables and methodology are presented.

## **4. Sample, variables and methodology section**

### **4.1. Sample and data collection**

According to the data available for the year 2013, there were 1,834 CEEs that represents all CEEs of Spain. Through the Monitoring and Management Service for Supporting Employment of People with Disabilities assigned to the Secretary for Employment (SEPE), it was possible to access to the names of all existing CEEs at

the end of the year 2013. There is not an accessible database of all the CEEs in Spain on the Internet because the competences of employment in our country are distributed in each region.

The SABI<sup>8</sup> database was used to extract the financial data, which provides quantitative and qualitative information for the Spanish CEEs, using their fiscal number. However, it was not possible to access to the financial data for all CEEs. So finally the information of the financial statements of 990 CEEs was collected from 2004 to 2013. This data represents 54% all the CEEs of Spain. Consequently, this is the final sample of our research.

#### 4.2. Variables

The objective of this paper is to analyse the economic viability of CEE. The employed variables were those that allow the analysis of the current situation of CEEs.

Our dependent variable is a measure of viability. We use the proxy of return on assets (ROA) because it is considered a ratio as a way of viability (Suarez, 2000; Retolaza et al., 2014). It is the ratio between the profit achieved in a given period and the total assets of a company. It is used to measure the overall profitability of assets in terms of the income earned from each euro invested in assets during the period (Navarro and Gil, 2013). In another words, the ROA measures the ability of a company's assets to generate profit for themselves. In theory, as other firms at the market, CEEs should be profitable in order to survive but it is not their main goal but social implications. Furthermore, ROA has been used for other researchers to define firms' profitability (José et al., 1996; Suarez, 2000; García-Teruel and Martínez-Solano, 2007; Isaac et al., 2009; Enqvist et al., 2012).

According to the most classical studies, profitability, cash flow, liquidity, leverage and efficiency ratios are the most used in failure prediction studies (Dimitras et al., 1996), that it is the opposite of viability. However, as we want to explain profitability and not failure prediction, we just select the ones without correlation with ROA. First, a ratio of liquidity is chosen. Other ratio non-correlated with the dependent variable is

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<sup>8</sup> <http://www.bvdinfo.com/en-uss/our-products/company-information/national-products/sabi>



the level of indebtedness. Additionally, the financial risk and growth rate in sales are included too.

The list of the independent variables for regression is presented in Table 1.

**Table 1. Independent variables**

Variables	Definition
ROA (return on assets)	Operating result/total assets
AGE	Number of years since its foundation
SIZE	Number of employees
SECTOR	According to the NACE-2 <sup>9</sup> codification
LOCATION	Autonomous community where they operate
LIQUIDITY (quick ratio)	(Current assets-inventory)/current liability
INDEBTE~S (indebtedness)	Total liabilities/total equity
F_RISK (financial risk)	Financial expenses/sales
SALESGR~H (sales growth)	$\text{Sales } t - \text{sales } t-1 / \text{sales } t-1$
SALES_E~L (average sales per Employee)	Sales/number of employees
SUBV_~N (capital grants)	Amount of money received from public institutions.
DUMMY (years)	Before 2007=1; After 2007=2

Source: own elaboration

Other variables that could condition the profitability of firms are sector, size and age. According to Claver et al. (2002) the profitability of a company is linked with the sector. To analyse this variable we use the activity of these companies according to NACE-2 codification. Additionally, many papers evidence the relationship between

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<sup>9</sup> The Statistical Classification of Economic Activities in the European Community, commonly referred to as NACE

size and ROA although the results are not conclusive yet. Some papers justify a positive relationship (González Perez, 1997), other ones negative (Antón et al., 1990) but others neutral (Galán and Vecino, 1997). Public subsidies are also part of the independent variables, because some studies pointed out that the profitability of CEEs might depend on the amount of money received from public institutions. In this study, we measure capital subsidies that are non-repayable and their purpose is financing the acquisition of non-financial fixed assets by the recipients. Location is also another important factor to take into account, especially for social firms because they are in a place where the social policies could vary and condition the viability of CEEs, in line with Retolaza et al. (2007).

#### 4.3. Methodology

The detailed descriptive analysis of financial ratios has been prepared in order to get a general vision of CEEs' situation. For answering our research questions, first, the data was processed in Excel. Additionally, we use a correlation table in order to analyse the relationship between variables. Also linear regression has been made to test what variables condition the profitability of CEEs.

Following the research question (RQ1), we expect that some variables will be significant, that is, they should lie below the level of significance of 5 % (as  $p\text{-value} < 0.05$ ). From the second research question (RQ2), we would expect that the coefficient  $\beta$  of the year dummy variable will be significant as well ( $p\text{-value} < 0.05$ ). This will mean that the economic crisis will have an impact on the profitability of CEEs. We will also check the significativity of the variables in the correlation matrix.

### 5. Results and discussion

The results of financial data analysis show that the CEEs are companies with a low rate of profitability (see Table 2). It is highlighted the negative result of profitability as ROA is -0.03%. This means that, in average, CEEs invested high amount of capital in production and did not receive sufficient returns. The average of CEEs' age is almost 9 years, which means that the majority of them are companies with experience

at the market. CEEs' size has been measured by the number of employees. The average of the Spanish CEEs is 116 employees. This means that these kinds of firms are very labour intensive.

**Table 2. Descriptive Statistics**

	<b>Mean</b>	<b>Std. Deviation</b>
AGE	8.83	6.53
ROA	-0.03	1.35
SIZE	116.18	1,342.31
SUBV_~N	119,628.12	946,288.90
LIQUIDITY	16.86	1234.81
INDEBTE~S	2.01	108.68
F_RISK	1.65	75.86
SALES_E~L	44159.64	123938.52
SALESGR~H	1.14	34.83

Source: own elaboration

The analysis of the public subsidy ratio shows that, on average, 119,628 euros are received by CEEs during the years of our sample (2004-2013). The average of liquidity ratio is 16.86 what means that CEEs are able to pay off their short-term debt obligations. Analysing the level of indebtedness of CEEs, the main results show that they are heavily indebted, 2.01, that is to say that 100 euros net worth, on average, have 201 euros of debts. The positivity of financial risk ratio indicates that the level of CEEs financial risk is low.

The correlation matrix shows the links between ROA and the independent variables chosen (see table 3). There is an interesting correlation between ROA and the location of the company. The profitability of CEEs is also determined by its sector. Other interesting factor is that the age of these companies is correlated with variables such as the location and sector. Thus, this is the answer for our research question 1, because the profitability of the CEEs is related to their sector and location.

**Table 3. Correlation**

	1											
AGE	0.0175	1										
SECTOR	0.0245**	-0.0250**	1									
SIZE	0,00668	0.0746***	0,0158	1								
LOCATION	0.0369***	0.0434***	-0,00562	0.0565***	1							
SUBV_~N	0,00505	0.126***	0,00899	0.188***	0.0409***	1						
LIQUIDITY	-0,00215	-0.00678	0,0037	-0,0011	0,0103	-0,00149	1					
NDEBTE~S	0,000625	-0.000225	-0,0118	0,0000401	0,00303	-0,00101	-0,000184	1				
F_RISK	0,00108	-0.00179	-0,00192	-0,00148	0,0006	-0,00451	-0,00029	0,000559	1			
SALES_E~L	0,0159	0.0331***	-0.116***	0.0324***	0.0591***	0.0560***	-0,00452	0,00222	0,00696	1		
SALESGR~H	0,00233	-0.0112	0,0155	-0,00185	-0,00966	-0,00351	-0,00042	-0,000461	-0,000565	0,0105	1	

\* p<0.10, \*\* p<0.05, \*\*\*p<0.01

Own elaboration

Another interesting information is that there is no correlation between the profitability of these companies and public subsidies as capital grants. This means that the idea that the viability of CEEs is due to its public subsidies is not true.

According to our research question 2, a linear regression has been made. The results show that the dummy variable that measures the profitability before and after the financial crisis is significant ( $p\text{-value} = 0.003 < 0.05$ ) for analysing the profitability of the CEEs (see Table 4). That means that the profitability of CEEs has been affected by the economic crisis

**Table 4. Results of the linear regression**

ROA	Coef.	Robust Std. Err	t	p> (t)	(95% Conf.	Interval)
DUMMY YEARS	-.1670046	.0557126	-3.00	<b>0.003**</b> *	-.2763331	-.0576761
AGE	.0014134	.0012458	1.13	0.257	-.0010314	.0038582
SIZE	9.17E-07	2.32E-06	0.40	0.692	-3.63E-06	5.46E-06
LOCATION	.009409	.0056432	1.67	<b>0.096*</b>	-.0016649	.020483
SUBV_~N	1.66E-06	4.54E-09	0.36	0.715	-7.25E-09	1.06E-08
LIQUIDITY	-2.28E-06	7.71E-07	-2.96	<b>0.003**</b> *	-3.80E-06	-7.70E-07
INDEBTE~S	5.63E-06	0.000015	0.38	0.708	-.0000238	.0000351
F_RISK	.0000129	.0000147	0.88	0.380	-.0000159	.0000416
SALES_E~L	1.22E-07	5.47E-08	2.22	<b>0.026**</b>	1.43E-08	2.29E-07
SALESGR~H	.0001122	.0001299	0.86	0.388	-.0001426	.0003671
SECTOR						
Industry	.7754807	.7900341	0.98	0.327	-.7748549	2.325.816
Construction	.841023	.8179395	1.03	0.304	-.7640732	2.446.119
Trade	.7566555	.7900861	0.96	0.338	-.7937822	2.307.093
Tourism	.7197665	.7879425	0.91	0.361	-.8264646	2.265.998
Inform. Service	.7835977	.787825	0.99	0.320	-.7624029	2.329.598
Adm. activities	.8079629	.7965143	1.01	0.311	-.7550893	2.371.015
Health activities	.7191254	.7967166	0.90	0.367	-.8443239	2.282.575
Other activities	.7636932	.7889106	0.97	0.333	-.7844377	2.311.824
_cons	-.7505292	.808886	-0.93	0.354	-2.337859	.8368009

Source: Own elaboration-. \*A coefficient is statistically significant at the 10% level or better, two-tailed. \*\*A coefficient is statistically significant at the 5% level or better, two-tailed. \*\*\*A coefficient is statistically significant at the 1% level or better, two-tailed.

The location ( $p\text{-value}=0.096<0.1$ ) of the CEEs conditions their profitability, as the correlation matrix shows, although the sector does not. This could be due to the different regulation about disability that exists in each region of Spain, related to their political orientation. Regions such as Andalusia or Asturias are governed focusing on social policies, with more social implications. Liquidity and average sales per employee ratios are also determinants of the CEEs profitability. It means that the cash amount and the efficiency in sales of each employee are factors that condition the ROA of CEEs in Spain.

## **6. Conclusions**

The aim of this study was to analyse the financial viability of all the CEEs operating in Spain through different accounting ratios. Prior literature review has shown that there are just a few economic studies on these social companies that are very important for society because for their labour for people with disability. We consider that it is essential to give academic and social visibility to these type of companies, since there are a lot of open questions about their management and greater part of the population does not know about their existence. The results of the descriptives show that CEEs are not profitable companies based on their accounting results, but their financial risk is low. The explanation could be that they are social firms, looking for the labour integration of disabled people, not maximizing their net income. However, a minimum of profitability is needed in order to survive at the market.

Regarding to their location of CEEs, results have shown that it is a key of their profitability because each autonomous community promotes its own standards for these companies. Also the profitability of CEEs depends on their liquidity level and the efficiency of selling from their employees. Another important aspect is the impact of the economic crisis in CEEs profitability. Obtained results have shown that economic crisis affected their profitability.

The governments of each region must invest more on equal opportunities for people with disability and the CEEs are companies whose main challenge is ensure paid work for people with disability and, at the same time, stay in the market. As the

results of this research shown, the location is one of the factors of profitability for CEEs. That leads us to the conclusion that for social entrepreneurs it is also more attractive the autonomous communities where there are more possibilities to have business success. A clear example is the autonomous community of Andalusia, which represents 17% (308) all the CEEs of Spain.

In case of management of CEEs, managers of these companies have to take special care to those factors such as average sales per employee and quick ratios, if they want to ensure the future viability of these companies.

As stated in the table 4 (results of the linear regression) the dummy variable of years before and after the financial crisis was significant. This means that the CEEs, as other companies in Spain, have been affected by the economic crisis that has arrived in 2008. Even though in our model, public subsidies do not play an important factor for the economic profitability of CEEs, but it could be one of the key factors of survival in the market in times of crisis.

And finally we consider that the creation of employment for people with disabilities is highly significant for society in general, as well as for the economy of a country. The obtained results in this study can be a good basis for, in the future, when the financial data will be available for all CEEs to show if there are significant changes in their economic-financial structure.

Related to future research lines in this topic, would be interesting to analyse different variables of profitability, indebtedness, liquidity and solvency to check the strong and weak points of these centres. Also, the inclusion of professionalization of managers variable would be interesting. Therefore, one of our future research lines will be to go more deeply into this important topic trying to present the financial and management results together.



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## **Chapter 5**

### **Economic and Financial Viability of Sheltered Employment Centres Through their Managers:**

#### **Is their level of professionalization an explanatory variable of their profitability?**

##### **1. Introduction to the chapter**

The professionalization of the senior management has been one of the preferred research topics in recent decades and it is described for the company in long-term perspective as: *"Managers have gradually improved their skills and have been better prepared for their work regardless of its relationship to the property of the company. These skills and competences were acquired through formal education, but also informally through periods of learning, study, work practices abroad and through new institutions and techniques of communication of information and personal contacts"* (Fellman 2013, pp. 9). Thus, it could be said that managers' professionalization depends on their work experience and trainings. According to Schein (2003), a professional manager is referred as an expert in a specific field with knowledge about how to handle firm's capital, information and human resources, among others. Regarding to the professionalization of companies, a company will be professional when it is directed by professional managers (Tadeo 2005). Nevertheless, the concept of "professional management" in family business research is often used but rarely discussed (Hall and Nordqvist 2008).

In recent years, many papers have studied family businesses and the importance of its professionalization (Dyer 1989; Tadeo 2006; Songini 2006; Chittoor and Das 2007; Debicki et al. 2009; Dekker et al. 2012; Pérez and Serrano 2013). Especially in Spain,



family enterprises dominated and dominate the business life of the country, but we hardly know anything about the process of management modernization (Fellman 2013). According to Flores-Ortiz et al. (2016) professionalization generates a high impact on the competitiveness of companies, even more in family companies where these processes are especially complex.

Logically, some of these family enterprises are run by their founders or their families. However, those who have managed to transform from small and medium enterprises (SMEs) into large companies, and then into multinationals, have in its structure a big difference: they have become professional. This means that they have adopted the practices and procedures of big companies and have been even hired managers with extensive knowledge and experience that have no relation with the family of the founders. Among many other advantages, professionalizing a company is a decisive step to manage potential conflicts between the values and goals of the family and the company itself (Leach 1993). To change the norms and values of business operations, to prepare for leadership succession and the lack of management talent (especially when a family business grows) are a number of reasons why a family who owns a business might want to professionalize their current management team (Dyer 1989).

A study carried out in Spain points out that the situation of professionalization of SMEs, especially micro enterprises, is weak, in comparison with the advanced European economies of similar size (Pérez and Serrano 2013). In addition, analysing the existing literature on professionalization of family businesses in Spain, few studies on professionalization of socially responsible companies can be reported, as it is the case of the sheltered employment centres. But the concept, the importance and evolution of these firms are well defined (Laloma 2007; Cueto et al. 2008; Rodríguez et al. 2009; Jordán de Urries and Verdugo 2010; Camacho-Miñano and Pérez 2012; Gelashvili et al. 2015).

The legal development of sheltered employment centres has its origin in the Law 13/1982 of 7 April on Social integration of the Disability Persons in Spain. According to this law, the sheltered employment centres are "those companies that have as its main objective to perform productive work, by participating regularly in the operations of the market, having as purpose secure paid employment and the

provision of the personal and social adjustment required by their disabled workers. At the same time they are a means of integration of a great number of people with disabilities to the regime of normal work" (Law on social integration of people with disabilities art.42. 13/1982). This means that they are able to create value by combining a social purpose with a commercial activity (Bellostas et al. 2015). Consequently, they may be public or private and profit or non-profit companies.

This means that becoming professional will guide family business toward better results (Flores-Ortiz et al, 2016).”

Valeau (2015) mentions that most researchers suggest that these organizations should become professional in order to be more efficient. This means that becoming professional will guide family business toward better results (Flores-Ortiz et al, 2016). In addition, a parallelism between family businesses and sheltered employment centres could be done since the last ones usually have its germ in associations and foundations set up by family members of disabled people. For their viability, it is required, not only voluntarism, but also professional management capacity. However, none of the recent studies about sheltered employment centres mentions their professionalization as a possible basis for its success. A research about sheltered employment centres in five autonomous communities in Spain highlighted that these entities, within the study population, adopt the structure of a SMEs (Bellostas et al. 2015). However, the researchers that have studied the professionalization of SMEs indicate that this is a very important variable to make a company successful. Professionalization guarantees the best results in terms of growth for the company, as well as job stability of workers, quality of life, and generation of new jobs and permanence of the organization over time (Rueda 2011; Llanos et al. 2011).

The objective of this study is to analyse the link between the level of managers’ professionalization and its profitability ratios in the special case of social firms, such as sheltered employment centres. Consequently, the professionalization of sheltered employment centres would be an explanatory variable of their economic and financial viability. The main results shows that, normally, sheltered employment centres are companies with a low rate of profitability, but if they are running by professionals, their profitability is a little bit higher than for those centres with low and medium rate of professionalization. This research is an important contribution to the literature on

this subject because there is no studies about the level of professionalization of sheltered employment centres, companies that represent an important economic value for the country's economy, i.e. sheltered employment centres had contracted 68,613 people with disability during 2015 in Spain.

The article is structured in five sections: the following section presents the literature review related to this subject; then it includes the hypotheses, sample research, methodology and validation of the survey. The following section includes the analysis of the obtained results and the conclusions.

## **2. Employment and disability: Sheltered Employment Centers**

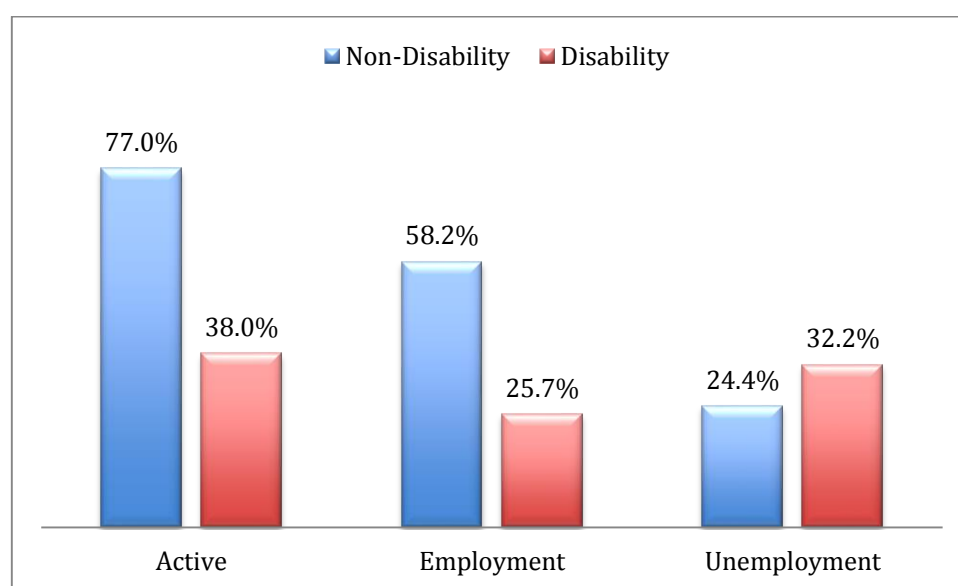
Employability and social inclusion of disabled people have got more visibility in the last years. Plans promoted by European Union have been key factors for this improvement (Dávila and Malo 2015). European Disability Strategy 2010-2020<sup>10</sup> sets the goals for people with disabilities. Among others, the main objectives are: accessibility and participation in the labour market, the promotion of equal opportunities and the removal of barriers to participate in public life and education, and, finally, the training and social protection. Spanish strategy about disability (2012-2020) focuses on the total participation of disabled people in the social and economic life of the country. This fact will support to develop and to advance successfully in aspects that are fixed by European disability strategy 2020. Comparing opportunities for employment between disabled and non-disabled persons, the rate of employment of people with disabilities is generally low (Berthoud 2008).

Comparing data about the employment rate of people with and without disability in Spain during the year 2014, we can observe a big difference (graph1), it is clear that for disabled people to find a job is still difficult.

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<sup>10</sup> <http://ec.europa.eu/social/main.jsp?catId=1137&langId=en>

**Graph 1. Spanish population with and without disability 2014**



Source: Own elaboration, according to National Institute of Statistics 2014

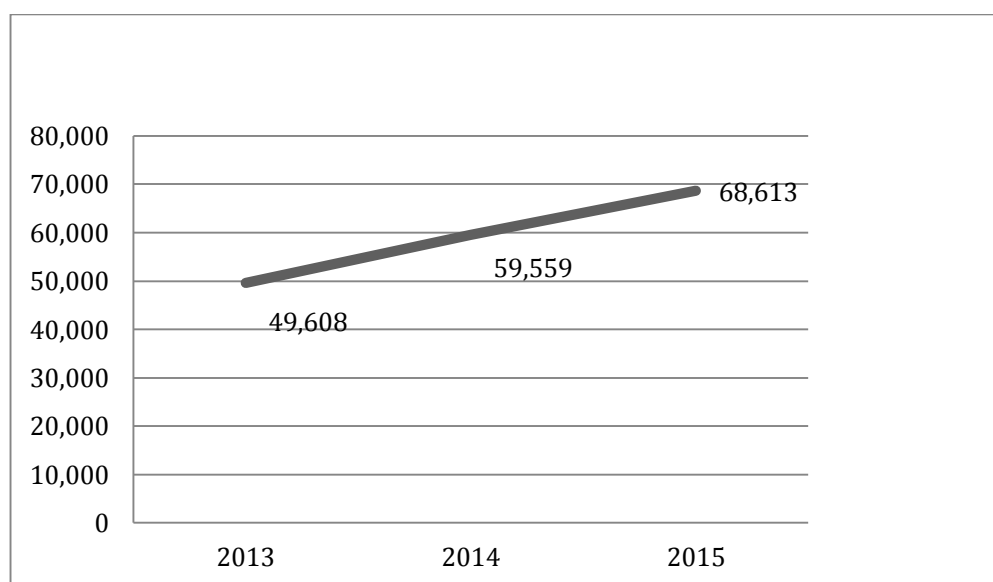
In this regards, 77.0% of non-disabled persons are active population. Nevertheless, in the case of disabled people, 38.0% of the total population with disability are active and 62.0% are inactive, that is, they do not have and never had a job. This graph shows a huge difference between both groups. This fact may be due to the scarcity of first employment opportunities, because the employers believe that people with disabilities are not prepared for a job and they do not give them the opportunity or, people with disabilities have not had access to the training and professional education (Barea and Monzón 2008).

In Spain there are different possibilities of employment for people with disability such as: quota system in ordinary company, supported employment, occupational centres and sheltered employment centres, among others. The last one is the object of this research. Sheltered employment centres are social companies (López et al. 2014), that have as main aim the social and labour integration of people with disabilities, and, at the same time, to help them to get a work in an ordinary company (LISMI, law 13/1982 of 7 of April). One of the main objectives for sheltered employment centres is to be profitable companies to survive in time and carry out their social value for what they have been created. Due to their importance, sheltered employment centres

receive public subsidies that help them to improve working conditions for disabled people.

Through sheltered employment centres, people with disability can find their first job, acquire capabilities and experience. Moreover, the support training and assistance provided by these companies facilitate their full labour and social integration (Calvo 2004). Analysing the most updated data about disabled persons in sheltered employment centres, every year the number of disabled persons in sheltered employment centres increases (Graph 2). This fact means that more employment possibilities for them can be got by means of these centres.

**Graph 2. Number of persons with disability in sheltered employment centres**



Source: Own elaboration according to FEACEM <sup>11</sup>(Federation of Spanish sheltered employment centres).

If we compare the data of the year 2013 with 2015, sheltered employment centres have given job to more than 19,000 disabled people during these two years. This fact demonstrates the invaluable role of sheltered employment centres for society and especially for people with disability. Analysing all, sheltered employment centres are a fundamental source of recruitment and career development for people with

<sup>11</sup> <http://www.feacem.es/es/centros-especiales-de-empleo/cifras/contratacion-de-personas-con-discapacidad-en-CEE>

disabilities (KPMG 2013) and they stimulate social and labour insertion of disabled people.

### **3. Reasons for professionalizing managers. Literature review about companies' professionalization**

Since the 1990s, the traditional approach in human resources (HR) is abandoned to move toward a strategic one. This change of approach is supported by contributions of the Theory of Resources and Capabilities, which handles the fundamental role of intangible assets and therefore of human capital (HC), in the process of value creation for companies (Gates and Langevin 2010). In a society in which knowledge is incorporated into all production processes and in which competition is established at a global level, the capacity to generate wealth depends more and more on the generation of intangible assets that are the key to competitiveness (Chell 2013; Abad and Castillo 2004). This fact concerns us especially because on many occasions the sheltered employment centres have their origins in parents' associations or foundations. It is possible that the executive team, once underway the company, does not have a professional profile that allows to achieve the best results or even to be able to face growth processes (situation comparable to the start-ups and family enterprises, although these last ones have peculiarities that may not be extrapolated to the sheltered employment centres).

Sheltered employment centres belong to the so-called social enterprises (Camacho-Miñano and Pérez 2012; Bergamini et al. 2014; Díaz-Foncea and Marcuello 2014). The European Commission declares that social enterprises devote their activities and reinvest their surpluses to achieve a wider social or community objective either in

their members' or a wider interest. Social enterprises require a new type of entrepreneurship, the social entrepreneurship. Consequently, social entrepreneurs must be able to create a business that combines social utility and a business project with technical and economic viability (provided that it is possible and profitable). In Spain the social entrepreneurial activity rate is well below the average of other countries around (Bergamini et al. 2014).

In Navarro's et al (2011) study, the main obstacles for social entrepreneurs in the creation of enterprises are verified. It is quoted: the lack of financial resources (this is common to all entrepreneurship initiatives), followed by the lack of business training and experience, the high risk and, finally, the excessive tax burdens and the lack of information. In fact, in the SWOT matrix (strengths, weaknesses, opportunities and threats) that these authors made for social and solidarity enterprises (Navarro et al 2011, p.162), the low professionalism in management appears as a weakness. In particular, these authors detected in their study that the main training needs are those related to project management, social matters, economy, human resources, information technology and legal issues. Therefore, the analysis of the professionalization degree of the management team in sheltered employment centres is really relevant, since it appears as one of the main obstacles not only to create, but also to achieve the viability or superior results in sheltered employment centres.

The appropriate use of human capital has been designated by the Global Competitiveness Index (GCI), published by the World Economic Forum (WEF 2012)<sup>12</sup>, as one of the keys to maintain and enhance efficiency. Spain is situated in a backward position among the advanced economies due to their deficiencies on these

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<sup>12</sup> <http://www.weforum.org/events/world-economic-forum-annual-meeting-2012>

factors; so it is essential to have the necessary human resources, especially in managerial posts whose decisions could condition the orientation, specialization and productivity of enterprises.

There have been no required improvements in labour productivity in Spain, among other reasons, by the low-skilled people taking decisions (entrepreneurs or managers) in many of them, but especially in smaller companies. The quality of the decisions of those who run companies depends on their training and experience. The Pérez and Serrano (2013)'s study, based on Labour Force Survey (LFS) data, shows that in Spain there is a great heterogeneity in terms of the professionalization of managers: very professional in large companies and very low profiles in SMEs. Likewise, Celentani et al (2010) demonstrate in their research that small firms have lower levels of professionalism, while in large enterprises the level of professionalism is high.

From here, the objective of this work is to detect the degree of professionalization of the sheltered employment centres managers through a questionnaire and to verify if there is a correlation between this variable and the results/viability of the sheltered employment centres.

As it has been previously mentioned, the origin of many sheltered employment centres is linked to associations and foundations of family character. In that sense, the professionalization of family businesses presents similarities with sheltered employment centres. In fact, the professionalization of family business has been object of in-depth study by researchers from very different perspectives (Dyer 1989; Galán et al. 2004; Songini 2006; Chittoor and Das 2007; Hall and Nordqvist 2008; Llanos et al. 2011; Dekker et al. 2012; Pérez and Serrano 2013). Consequently, the analysis of this process in family business can help to understand the importance of



professionalization of sheltered employment centres which, to our best knowledge, has not been studied to date.

In Spain, family businesses are 85% of the total of enterprises (Institute of family business 2015), which represent an important value for the economy of the country. According to Institute of Family Business, these companies perform the 70% of GDP of the country and the private employment.<sup>13</sup>

In the current highly competitive world, the competencies needed to lead and manage businesses successfully are dynamic (Chittoor and Das 2007). Therefore, in order to reach a high level of performance for a family company, an important element is to cover the key positions with professionals, who take the responsibility for driving the company towards the goals identified by the partners, and, at the same time, to have the ability to make the proper decisions within the different business workflows (García and Aranda 2001). Tadeo (2005) has defined the professionalization as the internal capacity, with which a family business structure, manages and governs the resources and capabilities, that are typical to achieve the desired results that lead to the attainment of its objectives. Even so, it is not easy to define, and much less to measure, the level of professionalization in the family business. The extent of the professional management of the family business is based on the following variables: the manager profile, the organizational structure, the use of information technology, the strategic approach, the type of managing, size, age and industry, among others (Meroño 2009).

The research about professionalization conducted by Songini (2006) pointed out that family firms are usually characterized by a lower diffusion of formal strategic

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<sup>13</sup> [http://www.iefamiliar.com/web/es/cifras\\_familia.html](http://www.iefamiliar.com/web/es/cifras_familia.html)

planning and control mechanisms, because of a widespread entrepreneurship and the strong linkages between the family and the enterprise at the ownership, governance and management levels. Other study about professionalization of SMEs in Argentina (Galán et al., 2004) have studied 81 SME and has shown that almost 93% of the managers were from part of family and only 53% of them had completed a degree (taking into account all type of degrees, not only business administration). The empirical evidence of this study has also presented a weak training in subjects related to the sector SMEs and the lack of business plans in these companies. Normally, managers of SMEs are responsible for the personal effectiveness, the economic viability of the company, its control, etc. These routine tasks do not allow them to have a time for extra activities such as innovation or developing their new competences (Velia and Tanucci, 2006).

The business growth, the number of decisions, the activity to develop and, the need of coordination and the control increase the need to professionalize companies. In addition, the changes in the competitive environment, the complexity of commercial systems, the reduction of the different support mechanisms, the lack of specific knowledge of the members of the organization, etc., reinforce the need for a professional management to direct these changes (García and Aranda 2001). Howorth et al. (2016) suggest that the professionalization of enterprises is a complex process, since the business cannot convert quickly from non-professional to professional, it is a long way and companies need to progress gradually. According to Flores-Ortiz et al (2016), a company is professionalized when the family owner applies professional criteria in the selection and hire new managers according to their ability. Tadeo (2005) considers the internal behaviour as a first step to identify company's

professionalization, since not all family businesses are equal with regard to the management, governance, structure and objectives they pursued.

Díaz and Mayett (2011) analyse different studies about the professionalization of family businesses. They relate numerous advantages provided by professionalization for companies as well for owners: the improvement of the company performance because of organizational efficiency, the quality life of the entrepreneur, advances on the important issues of the company, etc. In addition, the strategic planning and the director board have a relationship with the economic performance of family firms (Songini 2006).

Therefore, for the family enterprises and for their good performance, growth and generation of employment, the professionalization is very important, even more to compete in the market. The professionalization of companies is the basis on which the execution of efficient decisions is made, without the influence of the owners' family, whose objectives are not always aligned with the objectives of the organization. Therefore, there must be non-family managers who have the experience and formal education to manage the company (Flores et al. 2013). In addition, Llanos et al (2011) analysed several studies that highlight the importance of incorporating non-family managers, as for the natural expansion of the company, it is necessary to have well-trained professionals that they do not belong to the owner family. These professionals could move up to the upper levels of the company. Hiring professional managers for the top job gives flexibility to correct any mistake quickly (otherwise, they could have an adverse impact on the business). This procedure could be much more difficult if family members are chosen for that position (Chittoor and Das 2007).

Nevertheless, in their work Hall and Nordqvist (2008) and Meroño (2009) indicate that the professionalization is, with frequency, erroneously associated to the addition of managerial responsibilities of people outside the family. Therefore Meroño (2009) notes that the company professionalization will occur when it has a few executives and management systems enabling the decisions and more effective and efficient operations. And, of course, it is independent of belonging or not to the owner-family.

As noted in the review of the literature, it is clear that the management professionalization should be accompanied by series of structural changes to manage new relationships and ways of working (Tadeo 2005). The issue of professionalizing a family business is one that most, if not all, leaders of growing family firms must grapple with at some point (Dyer 1989). Taking into account the enormous need for professionalization of companies, this study analyses the professionalization of sheltered employment centres, companies that are part of the social economy of the country and are the most popular socio-labour integration companies for people with disabilities.

#### **4. Professionalization of managers: Literature review**

##### **4.1. Concept and utility of the model of managerial competences**

Widespread status of professional work generates questions surrounded the professionalization of managers in the companies (Leicht, 2016). Professionalization of managers normally means managers' training, in terms of knowledge and experience. But this perspective is wider and includes the use of competency models

to analyse the type of manager that organizations need to support their competitiveness (Boyatzis, 1982).

There are different definitions of the concept of "competence". One of the forerunners in the analysis of managerial competencies was Boyatzis (1982), who defined that it as an underlying characteristic of a person that includes motivation, traits or qualities, skills, aspects of social role, and knowledge. For Bartram (2005, pp. 1187), the competence is a set of behaviours that are instrumental in achieving the desired results. Similar to that, Boyatzis and Kolb, (1995, pp. 2) defined the competences as the combination of skills, knowledge and experience that allows a person doing something well. Díaz-Fernández et al (2014, pp. 207) refer to them as "a combination of knowledge, skills and behaviours that help achieve greater performance."

In all of them, the concept of competences is linked to the success of the organization and highlights that it is a multidimensional concept, since it refers not only to an attribute, but also to a combination of knowledge, skills, attitudes and values. This multidimensional nature of competencies determines the difficulty of this study. However, many authors (see Table 1) have encouraged to deepen the study of managerial competencies, arguing its utility to support decision-making processes in the different policies of human resources related to this important group of workers. In this case, we refer to the need to better understand the profile of managers so that, as pointed out by Guillen and Saris (2013), this knowledge facilitates the design of the policies of selection, training and career development of the manager. At the same time, the certification of these competencies has been revealed as a possible variable explaining the performance of the manager and the effectiveness of the organization.

**Table 1. Usefulness of the analysis of managerial competences**

Utility	Authors
Selection of managers	Boyatzis (1982) Bosch et al (2013) Cheng at al. (2005) Guillen and Saris (2013) Packard (2014) Stevenson and Starkweather (2010) Tonidandel et al (2012)
Training and development of managers	Bosch et al. (2013) Boyatzis (1982) Cheng at al. (2005) Guillen and Saris (2013) Packard (2014) Rubin and Dierdorff (2009)
Effectiveness of the manager	Bartram (2005) Boyatzis (1982) Cheng at al. (2005) Guillen and Saris (2013) Khandawalla (2004) Scullen et al (2003) Stevenson and Starkweather (2010) Tonidandel et al. (2012)
Maintain competitive advantage and generate profits.	Boyatzis (1982) Díaz-Fernández et al (2014)

Source: own elaboration

#### 4.2. Different models of managerial competences

As we can see in the table 2, studies about managerial competences have made different classifications of desirable skills for a managerial profile.

**Table 2: Profile of the managerial competences**

Authors	Classification
Bartram (2005)	<p>The theory of Great Eight</p> <ol style="list-style-type: none"> <li>1. Leading and deciding</li> <li>2. Supporting and Cooperating</li> <li>3. Interacting and Presenting</li> <li>4. Analysing and Interpreting</li> <li>5. Creating and Conceptualizing</li> <li>6. Organizing and Executing</li> <li>7. Adapting and Coping</li> <li>8. Enterprising and performing</li> </ol>
Bosch and Cardona (2010)	<p>It groups 12 competences in 3 dimensions:</p> <ol style="list-style-type: none"> <li>1. External (Business Vision, Resource Management, Negotiation and Networking)</li> <li>2. Interpersonal (Communication, Delegation, Integrity and Kindness)</li> <li>3. Personal (Initiative, Humility, Discipline and Inspiration)</li> </ol>
Boyatzis (1982)	<p>It identifies 12 competencies associated with managerial efficiency and 7 threshold competencies. Group in clusters:</p> <ol style="list-style-type: none"> <li>1. The goal and action management cluster</li> <li>2. The leadership manager cluster</li> <li>3. The Human resource management cluster</li> <li>4. The directing subordinates cluster</li> <li>5. The focus on others cluster</li> </ol> <p>All of these add to those of specialized knowledge that refer to principles, theories, specific models to each job and that will be identified in their assessment of performance.</p>
Cheng et al	<p>It identifies 12 items to measuring managers' performance:</p> <ol style="list-style-type: none"> <li>1. Orientation to results</li> <li>2. Initiative</li> <li>3. Information seeking</li> <li>4. Oriented to customer needs</li> </ol>

(2005)	<ol style="list-style-type: none"> <li>5. Impact and influence</li> <li>6. Management capacity or character</li> <li>7. Team work and Cooperation</li> <li>8. Team Leadership</li> <li>9. Analytical thinking</li> <li>10. Conceptual thinking</li> <li>11. Self-control</li> <li>12. Flexibility</li> </ol>
García-Lombardía et al (2001)	<p>It groups 18 competences in 3 dimensions:</p> <ol style="list-style-type: none"> <li>1. Strategic (Reflects the strategic talent of the manager): Business Vision, Interfunctional Orientation, Resource Management, Customer Orientation, Networking and Negotiation.</li> <li>2. Intrategic (developing effective relationships with workers): Communication, People Management, Delegation, Coaching, Teamwork and Leadership.</li> <li>3. Personnel (internal processes of the person in decision making and learning): proactivity, problem solving, self-governance, personal management, integrity and personal development.</li> </ol>
Guillén and Saris (2013)	<p>It groups 15 competences in 3 dimensions:</p> <ol style="list-style-type: none"> <li>1. Achievement competences: includes competences mainly related to fulfil /perform to objectives, to reach standards of excellence (orientation to achievement, initiative, persistence / optimism and catalyst for change).</li> <li>2. Affiliation competences: includes competences primarily related to creating, maintaining and using social relationships with others at work (service orientation, adaptability, teamwork, collaboration and transparency).</li> <li>3. Power competences: includes competencies mainly related to having impact on others (influence, leadership, developing</li> </ol>



	others, conflict management).
Khandawalla (2004)	<p>It identifies 45 in 6 groups:</p> <ul style="list-style-type: none"> <li>- Contextual Sensitivity</li> <li>- Management of initiatives</li> <li>- Innovative</li> <li>- Solve problems</li> <li>- Execution of tasks</li> <li>- Interpersonal and leadership competences.</li> </ul>
Packard (2014)	<p>It evaluates competency studies for managers of human service organizations (HSO) and it proposes, among others, the NSWM (Network for Social Work Management) classification.</p> <p>It identifies 21 competences in 4 group:</p> <ul style="list-style-type: none"> <li>- Leadership (11 competences);</li> <li>- Resource management (4 competences).</li> <li>- Strategic management (5 competences).</li> <li>- Collaboration with the community (1 competences).</li> </ul>
Rubin and Dierdorff (2009)	<p>It analyses 6 managerial behavioural competences:</p> <ol style="list-style-type: none"> <li>1. Conduct decision-making processes: collect information, judge the quality of things, services and people.</li> <li>2. Manage Human Capital: train and develop others; Resolve conflicts and negotiate with others; Create and develop teams.</li> <li>3. To develop strategy and innovation: to think creatively; develop objectives and strategies; provide advice to others.</li> <li>4. Manage the environment: communicate with people outside the company; Establish and maintain international relationships.</li> <li>5. Administration and control: evaluate information to determine compliance of standards; Record information.</li> <li>6. Manage logistics and technology: check equipment, structures and material; Control machines and processes; Interface with computers.</li> </ol>

Scullen et al (2003)	<p>It identifies 4 dimensions focused on managerial efficiency:</p> <ul style="list-style-type: none"> <li>- Technical dimension (related to the function performed by the manager: accounting, production, finance ...).</li> <li>- Administrative dimension (planning, setting objectives, delegating, controlling, and coordinating).</li> <li>- Human dimension (motivate, maintain personal relationships, communicate, represent team).</li> <li>- Civic education dimension (interpersonal, in the organization, in the post).</li> </ul>
Spencer et al (2008)	<p>It identifies 5 competences that are most required by companies:</p> <ul style="list-style-type: none"> <li>- Innovation.</li> <li>- Adaptation.</li> <li>- Customer orientation.</li> <li>- Results orientation.</li> <li>- Technical expertise.</li> </ul>

Source: own elaboration

As Table 2 shown, some of these studies directly present a list of competencies. The number of proposed competencies ranges from broader approaches (45 competencies) to more focused (12 competencies). In other models the competences are grouped around dimensions related to the tasks to be performed by these workers who hold the maximum responsibility in the companies. We also find authors that use as classification criteria the nature of competencies, differencing those that are more focused on the business strategy, those that focus more on personal and interpersonal skills.

With regard to the methodology used for the identification of competencies in most of these studies have applied: critical incident interviews; questionnaires addressed to managers and/or coaches or trainers; or 360 degree evaluations.

The objective of this kind of questionnaires is to identify the generic competencies for the managerial position, especially those that are necessary and lead to efficiency, independently of the organization or sector in which these managers work (Cheng et al, 2005). In this way, these profiles can be generalized, but always taking into

account that the efficiency of the manager will also be explained by how these competences are combined with those of a technical nature, that is, those specific according to the contingency of each organization. In the Boyatzis (1982) model, it is assumed that the competences are a necessary condition, but it is not enough that the manager to perform adequately, since there must be an adjustment between three elements: job requirements, requirements of the organization and individual competencies. For this reason, they start from an integrated competency model, since it is not possible to understand the competence of a manager by analysing a single or a single cluster without observing the rest. Finally the study concludes that: one third of the variance of the managers' performance must be explained by generic competences. Another third for the specific competencies of the job and the organization and the rest is due to environmental factors. Thus, managers will be more effective if he/she has all of these competences.

In fact, some studies have tried to identify which competences were most critical and the final conclusion is that, although some competencies can be identified that affect more to the performance, a hybrid approach must be adopted, since they must be complementary (Cheng et al, 2005). Tonidandel et al (2012) are able to prioritize, but in their empirical study they demonstrate that the four dimensions were significantly important predictors of directive efficiency.

**Table 3. Ranking of competences**

<b>Authors</b>	<b>Ranking of Competences</b>
Tonidandel et al (2012)	1 Managerial skills. 2 Human skills. 3 Technical and civic behaviour skills
Cheng at al (2005)	This study identifies 12 different competencies. Of these, the ones that most affect the performance in the position are: Self-control and team leadership.
Bosch et al (2013)	This research identify differences in country valuation. In particular it detects that the Asian countries put more emphasis on the interpersonal dimension of managerial competences.

Source: own elaboration

In our study, we will certify managers' competences using the Bosch et al (2013) model. The classification of managerial competencies presented by these authors has its origin in the García Lombardía et al. (2001) model, which verified the consistencies through a factorial analysis. This gave rise to discard some competences of the original model, as well as to the merger of some of them (Bosch and Cardona, 2010). In Bosch and Cardona (2013), these authors use this classification again, proving that the model of managerial competences with these three dimensions (external, interpersonal and personal) is stable in different countries. For these reasons we consider that the profile proposed by these authors is enough compared, considering it valid. In addition, this validity is enhanced by the fact that these authors in their last work (2013) provide the survey to be performed. In these survey each competence is certified with at least two items.

## **5. Hypothesis, sample and evaluation methodology of the survey**

### **5.1. Presentation of research question and hypothesis**

In Spain, most of the sheltered employment centres origins are associations and foundations (graph 3) of family members of disabled people. So to a certain extent sheltered employment centres can be considered as family businesses and they are managed by families<sup>14</sup>. Through the literature review, Rueda (2011) points out that per 100 family enterprises only 33% of them survive to the second generation process. Other studies such as Dyer (1989); Galán et al. (2004); Songini (2006); Hall and Nordqvist (2008); Nieto et al. 2010; Llanos et al. (2011); Dekker et al. (2012); Bogdány et al. (2013), indicate that professionalization is one of the important variables to explain the survival, growth, competitiveness and business success. Likewise, by means of processes of professionalization it is possible to develop a maximum potential of the competitive advantages of a company at the local level as well as the international one (Rueda 2011).

Reviewing the existing literature about professionalization and sheltered employment centres, there is not any study that analyses the professionalization of the sheltered

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<sup>14</sup> <http://www.educaweb.com/noticia/2015/04/15/retos-centros-especiales-empleo-8796/>

employment centres. According to Galán et al. (2004), the process of professionalization is one of the most important in the life of the company, as if it is not successfully made, the probabilities of survival and growth decrease sharply. That is why we consider important and necessary to analyse the situation of professionalization of the sheltered employment centres of Spain, if they can manage to overcome the phase of generation change, also if they can manage the potentials of the company in the market and, finally, if they can have more probabilities to survive.

From here, the first step in this research will be the construction of an index, which will divide the sheltered employment centres taking into account their level of professionalization. This will allow us to classify sheltered employment centres with low, medium and high rate of professionalization. To achieve this objective, the following research question is proposed:

*RQ: Could a professionalization index that classifies sheltered employment centres according to their level of professionalization be designed?*

Consequently, we understand that the more professionalized the manager's profile is, the better the results of the company will be (professionalization is an investment that involves an analysis cost-benefit as any investment). From here the following research hypothesis arise:

*H. The sheltered employment centres whose managers have a higher level of professionalization, have more probabilities to survive at the market than those which have a lower one*

Therefore, through this research it is expected that the professionalization of the sheltered employment centres can become one of the necessary factors for its survival and, also, can help to achieve the competitive position of the company on the market. Therefore, we expect that the hypothesis (H) will not be rejected.

## 5.2. Sample

The sample for this research is all Spanish sheltered employment centres in 2013, that is, 1.834, but only 530 sheltered employment centres has been contacted. It was not possible to contact with other companies for the following reasons: after a phone call

they have not shown interest to participate in the survey; the majority of the sheltered employment centres are small companies that has not been possible to locate (the report provided by the Public State Employment Service (SEPE) does not include companies' email and in some cases the phone number is missed too); most of them have the same management team (for example there are many sheltered employment centres founded by the same person and repeats the contact information); etc. The survey has been tested in the sheltered employment centres from the community of Madrid<sup>15</sup>, while in other autonomous communities, the survey has been sent by email. The survey was sent three times in the months of July, September and October 2015.

### 5.3. Analysis of the survey and methodology

The orientation, specialization and productivity of the companies are depended on the managers' decisions (Pérez and Serrano 2013). In small size enterprises, it is even more important because many functions and decisions are centralized together (Meroño 2009). Therefore, they have to become skilful at a set of knowledges, skills, attitudes that are applied in the performance of a specific liability or professional contribution, that allow a person to be "competent" in the function that performs i.e. achieving a performance (SEDISA 2013).

The main aim of this research is to discover the managers' degree of professionalization. On the one hand, the professionalization depends on the manager's education, professional experience and competences (Bosch et al. 2013), that is, the personal manager's characteristics, and constitute a *direct* measure of professionalization. Therefore these dimensions should be considered in the survey. But, on the other hand, the level of professionalization can be measured by means of the management tools or models adopted by the firm. The grade of implementation of management tools constitutes and *indirect* measure of professionalization.

Taking into account all these aspects, a questionnaire has been designed in order to include all these professionalization indicators. The analyses of the survey will allow us to obtain a "professionalization index" that will be compared with the probability of survival of CEE in order to test the correlation between them.

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<sup>15</sup> In Spain, the Autonomous Communities are a level of political and an administrative division. Spain has 17 Autonomous Communities with Ceuta y Melilla.

The questionnaire is addressed to the managers of sheltered employment centres and contains:

- Questions about competences: One of the most important studies about the classification of managerial competencies is the one made by the IESE Business School. This empirical study was carried out through a questionnaire for a sample of 150 managers (García-Lombardía al. 2001), and subsequently it is validated in a study in which a sample of companies from different countries is used (Bosch and Cardona 2010). They identified thirty competencies, with its corresponding definition, to ensure that a particular aspect of the behaviour for which they ask is being valued. In a later work, Bosch et al (2013, p. 441) calculate Cronbach's alpha (used to estimate the reliability of a psychometric test) for each competence and sub-dimension presenting high levels of reliability. The conclusions they manifest are that the model is useful to select and to evaluate managers.

So in our research, to test competencies we have used the Bosch et al (2013)'s model. Twelve competencies are tested by means of the valuation of 21 items in a Likert scale, which are grouped in three dimensions: external dimension (business vision, resource management, negotiation and networking), interpersonal dimension (integrity, communication, delegation and kindness) and personal dimension (inspiration, initiative, humility and discipline).

- Questions about their academic trainings and complementary studies (especially in SMEs). We used questions about the degree and area of studies, and, concretely, questions about specific management trainings. This information was obtained by direct questions.
- Questions about their professional experience: We asked about the number of years of management experience in sheltered employment centres and other type of companies (direct questions).
- Questions about the management model: we included questions about which management tools have been implemented in their sheltered employment centres. Eight management tools were included in the survey, among others: strategic plan, product and process innovation plan, training plan and quality systems. The respondent should point those that had been implemented in the

CEE. Annexed shows the model of survey of management tools which was answered by managers.

Once tabulated survey results, the outcomes were statistically analysed and the obtained results were extracted. The survey is not anonymous, so that we know the managers' professionalization of the different sheltered employment centres and, this way, the survey results could be related with the financial variables of each company.

## **6. Results and discussion**

### **6.1. Descriptive analysis**

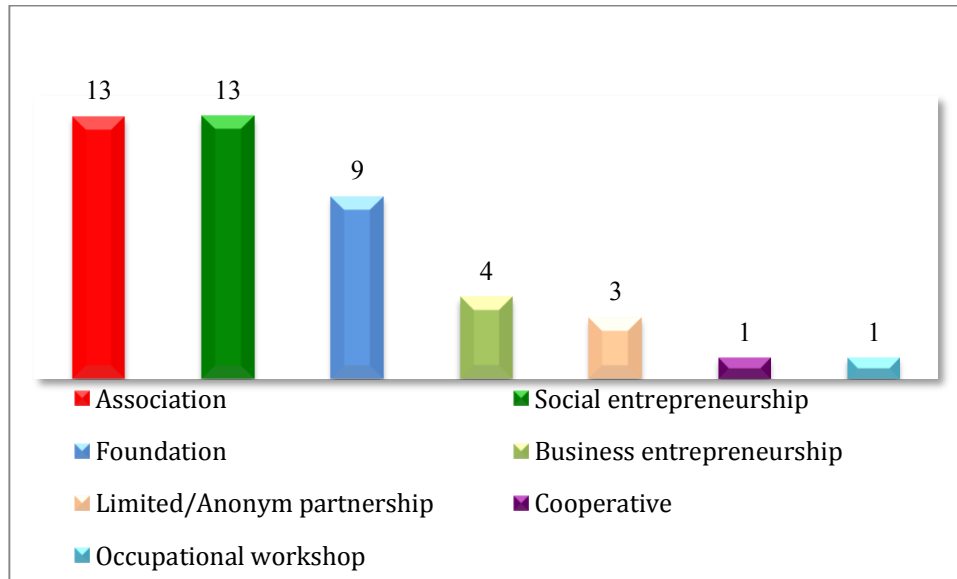
In this section the data set extracted from survey is analysed. After sending the survey three times, the results were very scarce, only 51 sheltered employment centres managers responded the survey, but six of them were not valid. Finally, 45 answers were analysed which represents 9% of the final sample. Even though the sample is small, it can be observed the professionalization degree of managers.

In the survey general questions about sheltered employment centres age, size (number of employees) and organizational structure were included. The responses show that 30 sheltered employment centres were created until 2008, the year when the strong economic crisis in Spain started. After this year, 15 sheltered employment centres were created. Although the economic crisis damaged the business of the country strongly, the sheltered employment centres have been able to continue their evolution. The half-life for these companies is 12 years what means that they are experienced companies in the market.

The analysis of the 45 centres shows that they employ a total of 2,870 workers. The 88% of their employees (that is, 2514 workers) present some kind of disability. This fact highlights the great importance of these centres for society. Finally, the answers about the origin of the sheltered employment centres shows that associations, foundations and social entrepreneurship have been the origin for most of these sheltered employment centres (Graph 3).



**Graph 3. The origin of sheltered employment centre**



Source: Own elaboration

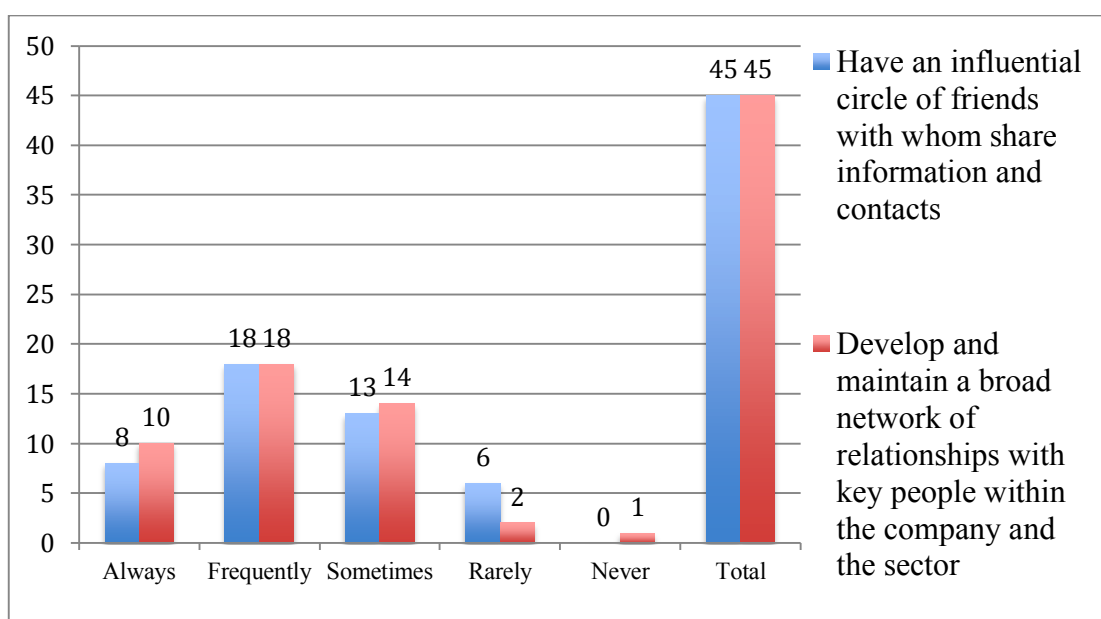
The main results of the survey will be analysed following the different question groups.

#### *Questions about competences*

As it has been mentioned previously, they have been grouped in three dimensions: external, interpersonal and personal dimension. Focusing on the questions about external dimension, the answers show that 27 sheltered employment centres managers frequently know the strengths of the company and competitors. Fifteen managers of 45 always know about the strengths of the companies and competitors and, only 3 of them have answered sometimes. On the other hand, more than 19 managers mark off that they always analyse the environment to exploit opportunities and identify threats that affect business. Likewise, they pointed out that they consider the opportunity cost of the used resources, dominate current productivity and control deviations. Two managers rarely analyse these points, while six managers sometimes and the rest of them frequently inspect these marks.

To finish with the external dimension, the managers were asked about their relationships. Graph 4 shows the result of the two questions related to their contacts.

**Graph 4. External Dimension results: questions about contacts**

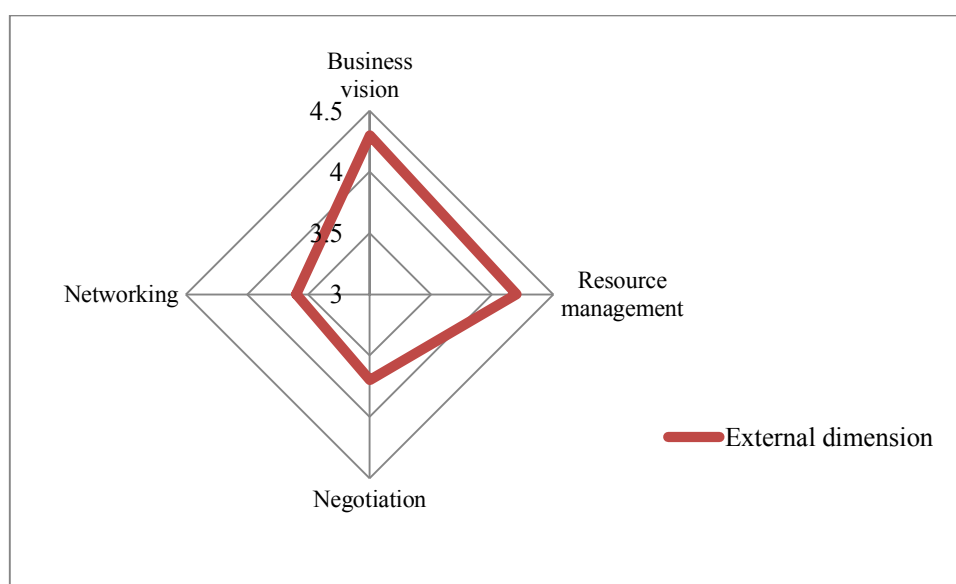


Source: Own elaboration

As we can see in graph 4, most managers frequently have an influential circle of friends, and develop and maintain relationships with key people in the company and in the sector. Two more questions of external dimensions have shown that more than 25 sheltered employment centres managers frequently get concessions in negotiations and are able to gain the confidence of the participants in the negotiation quickly.

To complete the external dimension of the managers, graph 5 shows the difference of the four components (business vision, resource management, negotiation and networking) those are part of external dimension.

**Graph 5. External dimension. Differences**

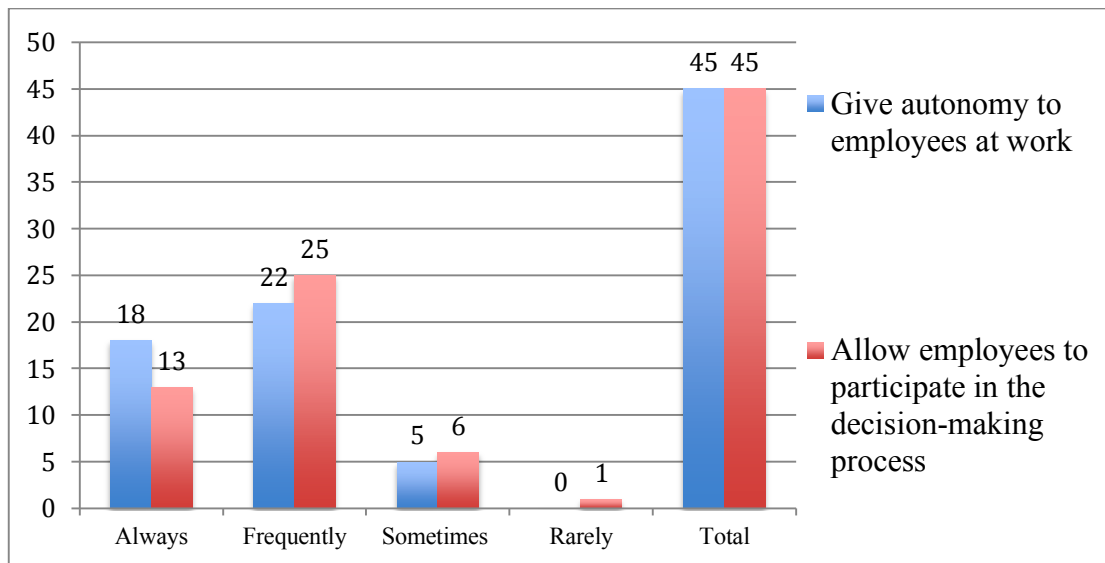


Source: Own elaboration

Analysing the sheltered employment centres external dimension, in general, the managers of sheltered employment centres frequently make evident their strength related to the business vision and the resource management, but not so much the negotiation and the networking.

On the other hand, if the responses for interpersonal dimension are evaluated, the result shows that 33 managers always negotiate with honesty, while the rest of managers frequently negotiate with honesty but not always. Also, most of them expose their opinions in a convincing and organized manner. In relation to their workers, most of managers frequently allow them to participate in the decision-making process and give them autonomy in their workplace (graph 6).

**Graph 6. Interpersonal dimension results**

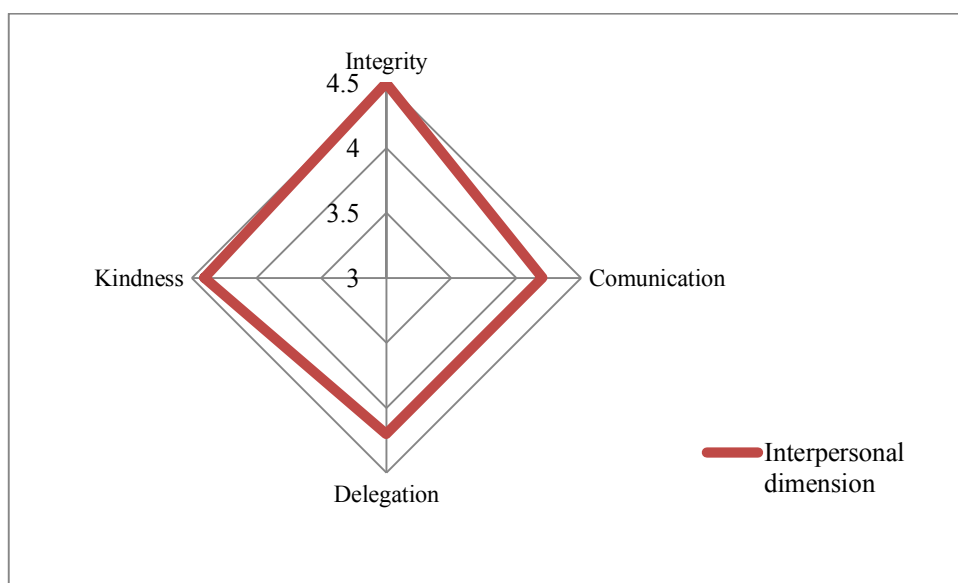


Source: Own elaboration

Other questions about the managers' interpersonal dimensions are related to employees. The answers show that 60 % of the sheltered employment centres managers always seek the wellbeing of their employees and get involved and worry about their workers' problems.

Graph 7 gives a general overview of interpersonal dimensions, where all interpersonal dimensions (integrity, communication, delegation and kindness) are contrasted.

**Graph 7. Interpersonal dimensions. Differences**

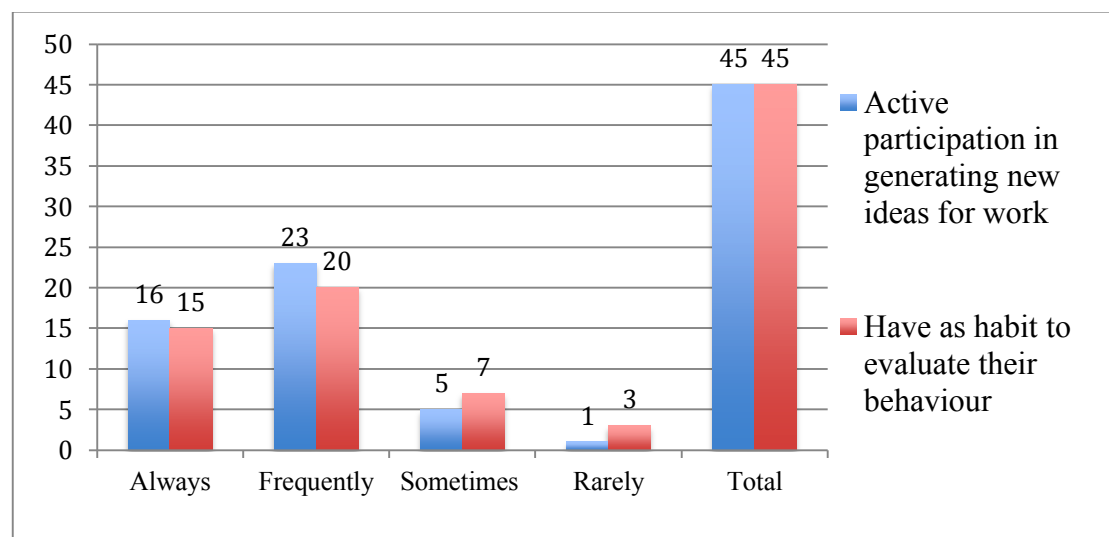


Source: Own elaboration

The results for interpersonal dimension show that sheltered employment centres managers' main strengths are honesty in the negotiations, the kindness, the interest of wellness and the close relation with their workers. In other words, all components of external dimensions are almost equally important for the sheltered employment centres managers.

Finally, the last part of the manager's competences is the one related to personal dimension. The results indicate that the majority of them are responsible and regularly participate in the improvement of their work. In addition, they present a high level of discipline and initiative (graph 8).

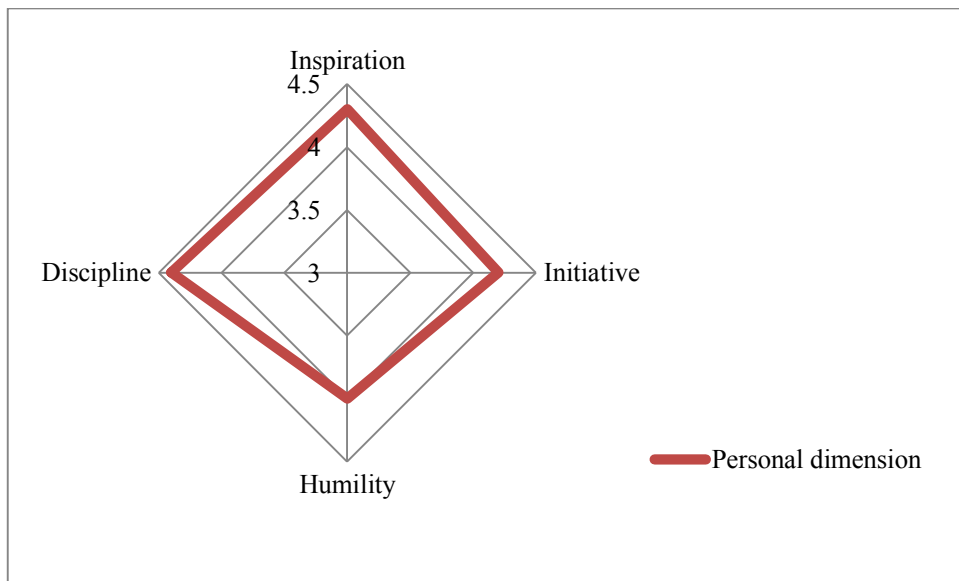
**Graph 8. Personal dimension results**



Source: Own elaboration

Graph 9 summarises the personal dimensions of sheltered employment centres managers, where all personal dimensions (inspiration, initiative, humanity and discipline) are compared.

**Graph 9. Personal dimensions. Differences**



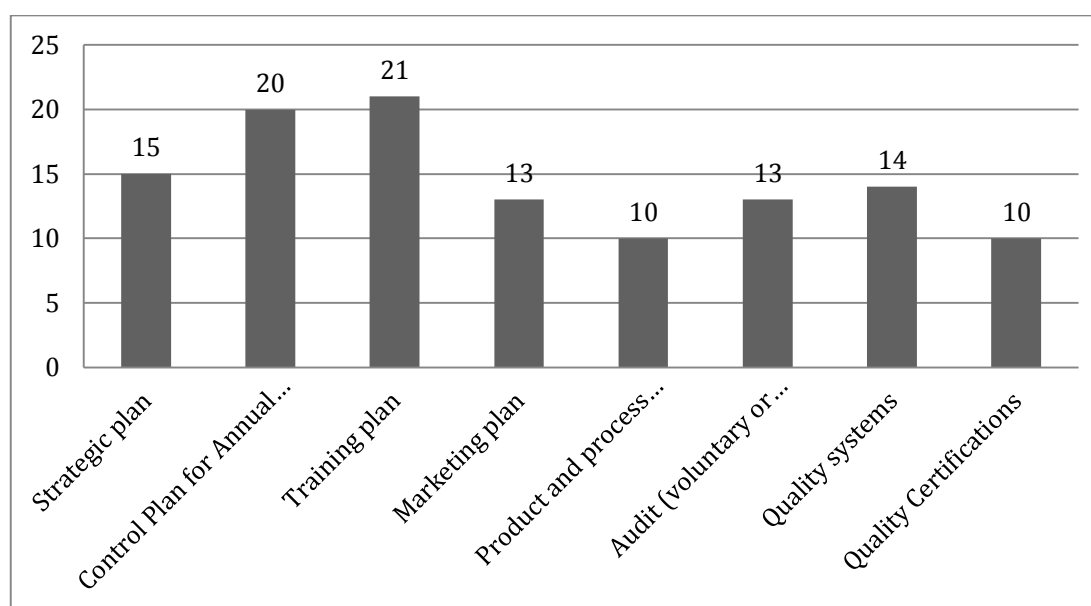
Source: Own elaboration

All of the components of personal dimension are well developed by the managers of sheltered employment centres. Although, the discipline is main strength for sheltered employment centres' managers.

#### *Questions about the management model*

The survey also includes questions about management tools that were implemented in the sheltered employment centres. As we can see in graph 10, control plan for annual managements and training plans are implementing in 20 and 21 sheltered employment centres, respectively. Only 15 sheltered employment centres managers take into account a strategic plan and a marketing plan, a quality system and audit is implemented by 13 sheltered employment centres.

**Graph 10. Management tools implanted in sheltered employment centres**



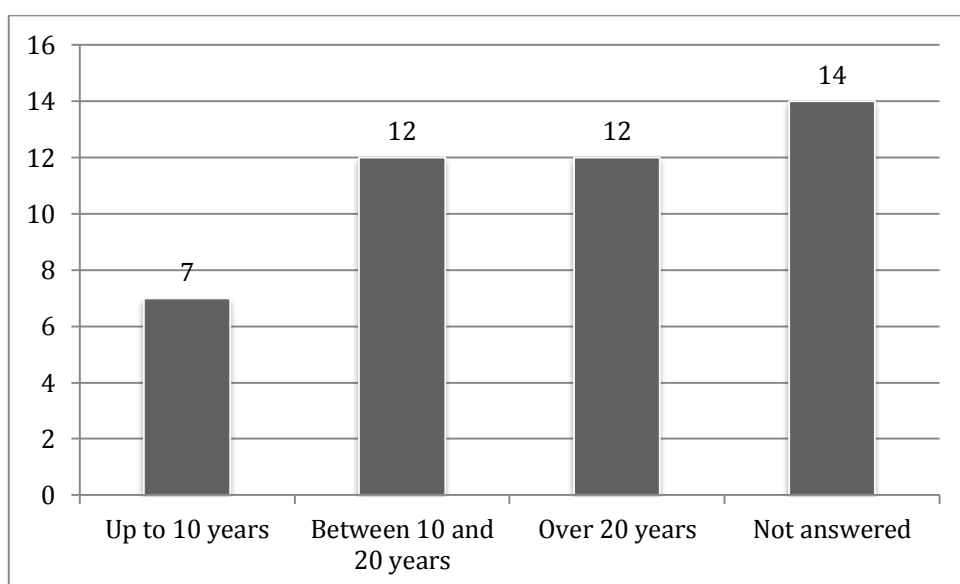
Source: Own elaboration

Regarding to other tools, some sheltered employment centres have implanted OHSAS (health and safety management system at work), EFR (international initiative to balance family and work) among others. In case of the quality certifications, 8 sheltered employment centres have ISO 9001 (certifications of management systems environmental, safety or social responsibility), 4 sheltered employment centres have ISO 900 (continuous quality management) and environmental management system ISO 14001 is implanted by 3 sheltered employment centres. ISO 39001, FQM, EFQM and OHSAS 18001 are some of other quality certifications that are implanted by sheltered employment centres.

#### *Questions about personal experience*

Taking into account the number of years of working experience, seven of them have less than ten years of experience, 12 managers have been working between 10-20 years and 12 managers have more than 20 years of experience (we refer total working experience, not only in sheltered employment centres).

**Graph 11. Total work experience**



Source: Own elaboration

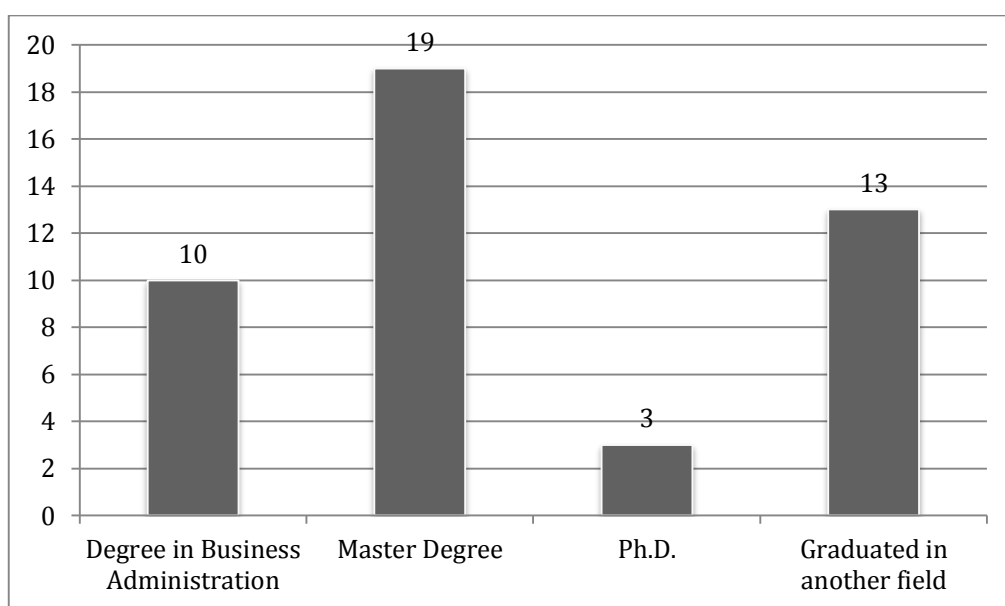
Regarding to managing experience, 10 managers unique experience is working in their current sheltered employment centres. Meanwhile other managers have previous experience in other sheltered employment centres, SMEs, family enterprises or other areas of company management. The long-standing experience of these managers can be one of the keys to success for these centres too.

#### *Questions about training and education*

In case of their education, three managers completed their study with PhD, 19 of them have reach a Master degree and 10 managers studied a degree in Business Administration. The rest of managers have a lack of business administration knowledge (graph 12).



**Graph 12. Training in Management**



Source: Own elaboration

In addition, 18 managers received specific training in SMEs management, while sixteen managers do not get any specific training in SMEs. The remaining managers received training in different fields, among others: special trainings to manage sheltered employment centres, financial management, team managements and other courses provided by foundation ONCE<sup>16</sup>.

## 6.2. Professionalization index

### *Measure of professionalization*

In this section the professionalization of sheltered employment centres will be analysed by the creation of a professionalization index that will be compared with some financial data for each company. For the financial analyses, some main financial indicators have been calculated, that is, a measure of profitability, another about solvency and an indebtedness ratio. The following formulas were used to calculate these financial indicators:

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<sup>16</sup> National Organization of Spanish blind people. <http://www.fundaciononce.es/>

$$\text{ROA} = \text{Net Operating Profit} / \text{Total Assets}$$

$$\text{Solvency} = \text{Current Assets} / \text{Current Liabilities}$$

$$\text{Indebtedness} = \text{Total Liabilities} / \text{Total Assets}$$

These financial indicators are considered as the most important ones to analyse the financial situation of any company (Rivero and Rivero 2000; Tascón y Castaño 2012; Korol 2013).

All questions about competences (external, interpersonal and personal) were measured by responses of Likert scale system. That means that all managers who have answered the questions specified their level of agreement or disagreement on a symmetric agree-disagree 1-5 scale. So, sheltered employment centres managers have chosen the option that best reflected their behaviour. The responses were evaluated as follows: 1 point for the answer “never”, 2 points for “rarely”, 3 points for “sometimes”, 4 points for “frequently” and 5 points was assigned to the response “always”.

Answers about management model were measured by the number of management tools implanted in sheltered employment centres. Therefore for each management tool, a point has been assigned. Manager’s experience was measured by the total working experience. The managers’ experiences have been divided in ten parts using percentiles (10th percentile, 20th percentile, 30th percentile...and so on) to avoid bias. Percentiles have been often used to divide variables in intervals (McKee 2000). Once the percentiles have been calculated, numbers from one to ten have been assigned to each part (1 for the 10th percentile and so on), so lower codes are assigned to the first percentile and so on.

Answers about training and education were evaluated as follows: 3 point for managers who had a master-doctor degree, 2 points for degree in business management and 1 point for vocational training in business management.

To create the professionalization index all the points for each manager have been added. This way we have a new variable that contains the sum of points for each manager. This new variable would contain the *professionalization points*. For the distribution of the professionalization points, two percentiles (33 and 67) have been

calculated to divide the distribution in three parts. Each part will represent the low, medium and high level of professionalization (table 4).

**Table 4. Index of professionalization**

<i>Professionalization Points</i>	<i>Level of Professionalization</i>
(0-111)	LOW
[111-118,67)	MEDIUM
[118,67- $\infty$ )	HIGH

Source: Own elaboration

Through this, it has been possible to show correlation of these three groups with financial ratios.

### *Results*

The results showed that there was no correlation between the size of sheltered employment centers and their rate of professionalization. This means that the size of sheltered employment centers does not affect their professionalization. The index of professionalization has shown that 16 sheltered employment centers of the total sample had low rate of professionalization, 14 sheltered employment centres belonged to enterprises with medium rate of professionalization and 15 centres had high rate of professionalization.

Table 6 shows the descriptive analyses of the financial ratios for low, medium and high rate of professionalization. The sheltered employment centres with high rate of professionalization have a little bit higher ROA (5.5) than companies with low and medium rate of professionalization, but the difference is not much. That is of every 100 euros invested in assets, 5.5 euros is generated for sheltered employment centres with high professionalization, 4.2 euros for companies with medium rate of professionalization and 4.8 euros for sheltered employment centres with low rate of profitability. Therefore, in general, the profitability of sheltered employment centres is low and their assets do not generate sufficient returns in terms of their own results of the main company activity.

The principal results for the indebtedness ratio show that sheltered employment centres with low rate of professionalization are heavily indebted, 156.6%, which for 100 euros net worth, on average, they have 157 euros of debts. For sheltered employment centres with medium rate of professionalization the debt is 76 euros for every 100 euros net worth and the sheltered employment centres with higher rate of professionalization presented lower rate of indebtedness (42.7). The results imply that a higher rate of professionalization in sheltered employment centres is associated with a lower rate of indebtedness than other sheltered employment centres with low and medium rate of professionalization.

**Table 5. Descriptive**

	<b>Low prof.</b>		<b>Medium prof.</b>		<b>High prof.</b>	
	Average	Std. Deviat	Average	Std. Deviat	Average	Std. Deviat
<b>ROA (%)</b>	4.8	9.2	4.2	16.7	5.5	14
<b>IND (%)</b>	156.6	446.9	75.6	41.1	42.7	29.9
<b>Solvency</b>	2.3	1.3	1.7	1.6	3.7	4
<b>Total</b>	<b>16</b>		<b>14</b>		<b>15</b>	

Source: Own elaboration

The analysis of solvency ratio shows that sheltered employment centres, on average, are solvent companies especially those with high rate of professionalization (3.7). Unexpectedly the solvency of sheltered employment centres with low rate of professionalization is higher (2.3) than the one for CEE with medium rate of professionalization (1.7). In general, we can reach the conclusion that the sheltered employment centres are solvent companies, and their solvency is notably higher when they are managed by professionals.

To test the hypothesis of this research about the survival of sheltered employment centres, Z-score formula (Altman, 1968) to predict survival of sheltered employment centres has been used. This formula is applied to predict the bankruptcy probability of a firm in two years. Z-score model has been changed over the time and in our case we have used the Z'-score for companies which are not listed on the stock market as it

is the case of sheltered employment centres. This model has the following formulation:

$$Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5$$

Where the  $Z'$  is the index of bankruptcy;  $X_1$ = (Current Assets-Current Liabilities)/Total Assets;  $X_2$ = Retained Earnings/Total Assets;  $X_3$ = Earnings before Interest and Taxes/Total Assets;  $X_4$ = Book Value of Equity/Total Liabilities;  $X_5$ = Sales/Total Assets.

Results of  $Z'$ -score show that, in practice, companies can be classified in three different areas:

**$Z' > 2.9$  -“Safe” Zone;** Its means that the company has not risk of bankruptcy. In our model we have assigned value “0” to the probability of bankruptcy.

**$1.23 < Z' < 2.9$  -“Grey” Zone;** it means that company could have problems to survive in the next period. We also assigned value “0” to all companies in this zone, because we are interested in the survival of companies to carry out their social purpose (the creation of jobs for people with disability). In this case, the sheltered employment centres have possibilities of surviving.

**$Z' < 1.23$  -“Distress” Zone;** it means that there is a high probability that the company goes to bankruptcy. In our model we have assigned value “1” to all companies that are situated in this zone.

So, from here, a regression has been made to check if the professionalization of sheltered employment centres is one of the determining variables to predict the survival or the bankruptcy of sheltered employment centres.

For variance homogeneity Levine’s test statistic is analysed. For this test, if the p-value is higher than 0.05 means that the model assumes equal variances, and if the significance of this test is less than 0.05, then the variances are significantly different.

In our case, p-value is 0.00 lower than 0.05 what implies that the model does not assume equal variances between the analyzed groups.

In the table ‘ANOVA’, the variation (Sum of Squares), the degrees of freedom (df), and the variance (Mean Square) are shown for between and within groups.

**Table 6. Analysis of Variance**

ANOVA					
zscore*					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.088	2	0.544	3.739	0.032
Within Groups	6.112	42	0.146		
Total	7.2	44			

Source: Own elaboration

This table also presents F value and the significance for the F-value. As we can see, there is difference between the two mean square (0.544 for between groups and 0.146 for within groups) and the significance level (0.032) is lower than 0.05. Taking into account these results, we can conclude that the survival of sheltered employment centres depends on the level of their managers’ professionalization.

## 7. Conclusions

Some companies, such as sheltered employment centres, have twofold objectives, to be profitable and, at the same time, to guarantee the labour and social integration of people with disability. For this type of companies, it is essential to ensure their survival and its growth in the market. It is undoubtedly the potential of sheltered employment centres to increase the employability of this group of people and to take part of the social economy of our country.

Taking into account the importance of sheltered employment centres, the main objective of this research is to test if the professionalization of managers from

sheltered employment centres is a conditioning factor for high economic returns. The main results show that, normally, sheltered employment centres are companies with low rate of profitability, but if they are running by professionals, their profitability is a little bit higher than the one for sheltered employment centres with low and medium rate of professionalization. It is also important to highlight that sheltered employment centres are solvent companies, especially when they are running in a professional way. Results of surveyed companies show that high solvency ratios are obtained by sheltered employment centres with high rate of professionalization. Sheltered employment centres with low professionalization rate of their management teams are heavily indebted. Consequently, results show that lower debt is associated with the high level of professionalization.

This study has many implications for stakeholders: first, sheltered employment centres must pay more attention to the professionalization of their management team, because professionalization can lead to meet its goals and to guarantee the firm's growth. Thus, training programs should be promoted by government in order to ensure the professionalization of those companies. An increase in the training programs must be a main objective for the surveyed sheltered employment centres, because half of them are led by managers who have not received trainings in SMEs management. The results of the survey in which the executives have self-evaluated their competences show that their main weaknesses are networking and negotiation. Training programs in skills and attitudes should be designed to strengthen these competencies. Likewise, although at a lower level, it would be interesting to improve skills in negotiation, delegation and initiative. Moreover, managers of social firms should know that the establishment of strategic plans will be useful to identify new opportunities in the market. In conclusion, a high professionalization level of these centres' team management can solve the existing problem about their profitability and can contribute to give visibility of social entrepreneurship as a success business.

Finally, this paper is not out of limitations. The sample is small but there are similar studies with similar response rates. In future studies we will try to increase the sample in order to run linear regressions for exploring more results. The professionalization index has been built using different studies and according to our methodology but with more data components factor analysis could be implemented and the index could

be more precise. In future studies, it would be also necessary to complete the vision of strengths and points of improvement in managerial competences that has derived from the self-evaluation, resorting to the 360° evaluation, gathering the opinion of the people who are in contact with the managers, especially their subordinates. This would allow us to detect blind spots, that is, deficiencies that managers present but of which they are not aware. Additionally, more statistical techniques could be used if the sample is enlarge.



## 8. Annex

### Management Model

Indicate which of the following tools have been implemented in your CEE:	
	Yes/No
Strategic plan	
Control Plan for Annual Management	
Training plan	
Marketing plan	
Product and process Innovation plan	
Audit (voluntary or mandatory)	
Quality systems	
Quality Certifications:	
NO	
YES. Please indicate which (ISO 9000, ISO Sector, FQM ....):	
Other tools: (please specify)	

Source: Own elaboration

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## Capítulo 6

### **Social Entrepreneurship in Sheltered Employment Centres:**

#### **A Case Study of Business Success**

##### **1. Introduction to the chapter**

###### *Social Economy*

The present financial crisis has highlighted the need for a revision of principles that guide businesses. There is a growing interest in businesses whose main objective is to serve a collective or the society in general. In this context, the so-called ‘social economy’ sector and the principles on which it is based are becoming more and more important. The legal framework in Spain for this sector is the Law 5/2011, March 29<sup>th</sup>, on Social Economy. This regulation defines social economy as the private set of economic and business activities that pursue the interest for a particular collective or the general economic and social interest. The principles that guide this type of companies are based on the primacy of people over capital, the social and equitable sharing of benefits and solidarity. Moreover, the development, promotion and encouragement of social entities are considered as a general interest task. Article 5 of Law 5/2011 considers that social insertion enterprises, cooperatives, worker-owned companies, mutual companies, foundations and sheltered employment centres (CEEs) are part of the social economy. Yet, the European Commission declares that “social enterprises devote their activities and reinvest their surpluses to achieve a wider social or community objective either in their members' or a wider interest. Therefore, there is a social dimension to its initiatives, that is: an initiative launched by a group of citizens, a decision-making power not based on capital ownership; a participatory nature, which involves the persons affected by the activity; limited profit distribution and an explicit aim to benefit the community (work integration, personal services and

local development disadvantaged areas).<sup>17</sup> Taking into account the European Commission criteria, social enterprises would be the insertion enterprises, sheltered employment centres and social initiative cooperatives (Triper, 2015).

In Spain CEEs are socially responsible companies because they play an important role for society in helping people with disabilities to enter the labour market but also in a normal life. A sheltered employment centre is a business in which at least 70% of its workers are disabled people (with an official certification of disability degree higher than 33%) and because they are being responsible companies, they receive public financial aid for their creation, for business payments, for social security, for maintenance of jobs, etc. (Royal Decree 2273/1985 of 4<sup>th</sup> December). Therefore, the creation of social enterprises, in general, and a sheltered employment centre, in particular, involves a new kind of entrepreneurship and the emergence of the figure of social entrepreneur.

The aim of this paper is to characterize the social entrepreneur profile in a CEE giving academic visibility due to its great contribution to the social corporate responsibility and to encourage the so-called social entrepreneurship. Therefore, the reasons for creating social firms are analysed and the characteristics that can contribute to the success of this type of companies are studied. Using the case study methodology, a CEE is analysed in depth. A case study is also important for building theories (Eisenhardt, 1989). This CEE was founded ten years ago and, at present, it is in an expansion process.

The principal contribution of the paper is to show the main features of social economy business by means of a specific case and the key variables that have led to its success. In particular, we show that CEEs are profitable firms if managers run them in a professional way. In our case, a solid financial situation with high solvency ratios, a good financial leverage and low level of short-term debts are fundamental for success. Its high gross margin is due to this company having used the official subsidies for promoting disabled employees to get an advantage in its labour cost structure. There is a trade-off between possible workers' inefficiency (because they have a disability)

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<sup>17</sup> European Commission. Social enterprises  
[http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/social-economy/social-enterprises/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/social-economy/social-enterprises/index_en.htm)

and their lower labour costs. Additionally, in our case study, there is also a positive return for the Public Administration with CEE because they give more than they really receive. This means that these business tactics have the potential to increase overall social well-being and the creation of value for the company. Moreover, external and internal managerial competences are part of the success of the CEE analysed, apart from the established strategic plans and training programs as main tools in its management system. Professionalization is essential for its survival in the market and for its sustained growth, without forgetting the manager's discipline with work, along with the inspiration, initiative and humility. Thus, we can learn from this case the viability of social firms, with a high impact on the life of disabled people as well as society due to their social responsibility. We believe that increase of this type of companies with strong management can solve existing problems about employment of people with disability and give visibility to social firms as a successful business.

The rest of the paper is organized as follows. A review of the existing literature on social entrepreneurship and sheltered employment centres is displayed in section 2. The following section develops two empirical analyses taking into account the economic and social role of the studied sheltered employment centre. The results and discussion are presented in section 4. Finally, some practical lessons are highlighted and some future lines for research are offered.

## **2. Literature Review**

The main objective of this paper is to analyse a case study of social entrepreneurship with success, in particular, a sheltered employment centre, in Spain. There are two main lines of research about this topic: social entrepreneurship and the sheltered employment centres.

### **2.1. Social entrepreneurship**

A social entrepreneur starts a business trying to meet social needs and the viability of the business is essential to achieve social aims (Melián et al., 2011; Sullivan, 2007).

Nowadays, social entrepreneurship has increased and, therefore, the interest in its study has also grown among researchers belonging to very different fields and with different approaches too (Weerawardena and Sullivan, 2006). As a consequence, there is not a rigorous definition of what a social entrepreneur is and does (Harding, 2004; Moulden, 2009). Most of the literature available on this subject has focused on entrepreneurship in general (among others, Drucker, 2014; Shane and Venkataraman, 2000; Stevenson, 1983) rather than social entrepreneurship. Indeed, some authors ask if social entrepreneurship can exist (Roberts and Woods, 2005). Therefore the difference is in the word *social* and its implications.

The critical distinction between entrepreneurship and social entrepreneurship lies in the value proposition itself. According to Martin and Osberg (2007), for the entrepreneur, the value proposition anticipates and is organized to serve markets that can afford (or pay for the innovation of) a new product or service, and it is thus designed to create financial profit. Therefore, it is expected that the entrepreneur and his or her investors will derive some personal financial gains. However, the social entrepreneur aims for value in the form of large-scale, transformational benefit that accrues either to a significant segment of society or to society at large. That is, the social entrepreneur's value proposition targets an underserved, neglected, or highly disadvantaged population that lacks the financial means or political clout to achieve the transformative benefit on its own. Indeed, a social entrepreneurship uses the same tools as the private sector but for trying to solve social problems (Olsen, 2004).

In the pioneering and seminal work of Dees (1998), it is stated that social entrepreneurs play the role of agents for change in the social sector by: “adopting a mission to create and sustain social value (not just private value); recognizing and relentlessly pursuing new opportunities to serve that mission; engaging in a process of continuous innovation, adaptation, and learning; acting boldly without being limited by resources currently in hand, and exhibiting a heightened sense of accountability to the constituencies served and for the outcomes created”. Consequently, the mission is explicit and fundamental, and the mission-related impact becomes the central criterion (not wealth creation) that reflects the primacy of social benefit (Dees and Economy, 2001).

Martin and Osberg (2007) define social entrepreneurship as having the following three components: identifying a stable but inherently unjust equilibrium that causes the exclusion, marginalization, or suffering of a segment of humanity that lacks the financial means or political clout to achieve any transformative benefit on its own; identifying an opportunity in this unjust equilibrium and developing a social value proposition that forges ahead to create a new, stable equilibrium that ensures a better future for the targeted group and even society at large.

Austin et al. (2006) distinguish between commercial entrepreneurship and social entrepreneurship using four variables. The first variable is the market. The lack of a market is a problem for a commercial entrepreneur but an opportunity for the social one because the latter tries to meet a social need. The second variable is the mission. It has just been seen that for the social entrepreneurship the mission consists in the creation of social value while commercial entrepreneurship seeks private profitability for the shareholder. The resources are the third one. The limited profit distribution of social entrepreneurship can condition and restrict access to the capital markets. Finally the last variable is how to measure the performance because social entrepreneurship faces great difficulties and it is very difficult to measure the social impact. A similar distinction can be found in Dorado (2006) but focuses on the definition of the opportunity, the organizational structure and the achievement of resources. Social entrepreneurship is carried out by men and women but frequently, female entrepreneurship develops social enterprises aiming to promote women's social and professional inclusion (Ferraz et al., 2014).

Nevertheless, nowadays there are other activities (such as social activism or the provision of social services) that could not be included in this concept of social entrepreneurship as they are different realities (Martin and Osberg, 2007). What is more, social enterprises cannot be confused with corporate social responsibility by means of which large companies carry out projects, events or even new business lines that develop social activities, but not at all social businesses (Triper, 2015). Therefore, the creation of a socially sustainable social value by means of innovation is the key feature to characterize social entrepreneurship and social businesses (Harding, 2004; Reis and Clohesy, 2001). This social value consists basically in changing the lives of people for the better by means of the achievement of objectives socially desired

(SEKN, 2006). This preservation of the social value would imply the sustainability of the organization and its services including the financial point of view (Novy-Hildesley, 2007). As a result a social value and an economic value would be obtained (Chell, 2007).

Bearing all this aspects in mind, social entrepreneurship is a specific type of entrepreneurship whose aim is to find solutions to social problems by means of creating opportunities that generate a sustainable social value (Guzman and Trujillo, 2008). Therefore, we associate social entrepreneurship with social business as previously defined.

## **2.2. Sheltered employment centers**

Sheltered Employment Centers (CEEs) arose in Spain in the year 1982 to meet the need for integration of people with disabilities in the labour market (KPMG, 2014). The Royal Legislative Decree 1/2013, of 29th November, defines CEEs as those firms “whose main objective is to make a productive activity of goods or services, regularly participating in market operations, activity and aiming to ensure a paid job for people with disabilities; while they are a means of inclusion of the greater number of these people in the ordinary employment system”(art. 43).

The CEEs enter in the list of companies that have a chance to develop it in a social responsible way and can be created by public administrations, institutions, individuals, legal or community property having legal capacity to act (Camacho-Miñano and Pérez, 2012). The main requirement is that the staff of CEEs should consist of, at least, 70% of workers with disabilities of more than 33%, and be enrolled in the corresponding regional registry.

According to the Royal Decree 2273/1985 of 4 December (B.O.E. 9-12-1985) by which the regulations of the CEEs were approved, the CEEs may be profit-making or not. In this way, entrepreneurs or public entities are free to choose whether their company might seek profit\_or not, or take advantage of only a part of them for different purposes. CEEs will be obliged to conduct a management subject to the

same rules and requirements as any company in the same sector. Thus, they must be productive and profitable, and, at the same time, show their social efficiency and professionalise their employers. It is therefore essential to CEEs to reach the peak of excellence, in order to maintain competitiveness levels that allow them to remain active (Giménez, 2012).

In Spain CEEs have access to the following public subsidies in terms of employment support programs for people with disabilities, among others: grants for creation of CEEs; grants for the maintenance of jobs; bonuses related to social security payments; grants to eliminate architectural barriers and adaptation of the job (Laloma, 2007). With respect to social security, contracts made in CEEs have a bonus of one hundred percent of the employer's contribution (Cueto et al, 2008).

Studies on CEEs in Spain indicate that these companies are an important element of generating employment for persons with disabilities (Laloma, 2007; Barea and Monzón, 2008; Cueto et al, 2008; Rodríguez et al, 2009; Jordán de Urriés and Verdugo, 2010; Camacho-Miñano and Pérez, 2012; Redondo and Martin, 2014). Moreover, the number of CEES has increased considerably in the last two decades (Rodríguez, 2012). So nowadays, we can say that the growth of the CEEs in recent years has been considerably high as well as the labour insertion of people with disabilities. This increase is due to a social policy which develops necessary measures and programmes that have configured the CEEs as the main work option for disabled people and, no doubt, they have enabled them to develop the role of worker. In many countries with the help of social policies, family and disabled people themselves have acquired more standard labour integration.

It is important to note the role of CEEs in the economic sphere of the country. During the economic crisis, many jobs and firms have been significantly destroyed but the entrepreneurship in the social sector has been less affected. For this reason, this book chapter analyses the CEEs' success, using the method of case study. The results will help to understand the survival of these types of companies on the labour market and it may be possible to propose the improvement of management of them, at the same time making visible the importance of CEEs for a society.



### 3. The Empirical Study

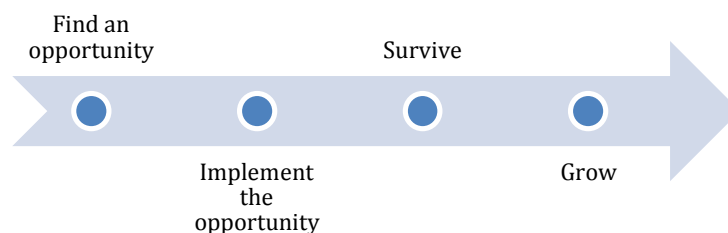
#### 3.1. Data and variables

The case study is based on a Spanish CEE named “Coolaboro”. This firm was founded by its director manager and owner, Mr. Antonio Cobo, in Madrid during the year 2004.

Nowadays Coolaboro offers four services to its customers: technical and commercial support, telemarketing, document processing/management and support for administrative work. All of these are almost carried out by disabled workers. In 2014 the firm has 2 non-disabled out of 52 workers.

The first step in an entrepreneurial process is to find an opportunity (see Figure 1). While commercial entrepreneurs look for opportunities that generate profits, social entrepreneurs seek opportunities that allow them to generate social value. They focus on social problems and find solutions to these problems. In words of Mr. Cobo, the main motivation to create Coolaboro was “to achieve that my work will be useful to help people who face most difficulties in their lives”.

**Figure 1: Entrepreneurial process**



Source: own elaboration.

The social problem that motivates the creation of Coolaboro was the huge unemployment rate detected for disable workers. In Spain the unemployment rate for disable workers was, in 2012, 33.1%. The economic crisis had affected dramatically

this group of workers, who presented an unemployed rate 8.1 points higher than non-disabled workers. In addition 60% of the disabled workers unemployed are long-term unemployed (being in this situation for more than one year)<sup>18</sup>.

Nevertheless, in the way in which they describe their mission it is easy to identify that this social objective is not in conflict with economic efficiency: “our mission is to provide qualified work for disabled people, adapting positions to personal characteristics of each worker, and at the same time, offering our services at the same level of quality as ordinary firms do”.

When we asked Antonio about their business model, he described their value proposition underlying the importance of being able to offer to their customers work with the same quality level as the competitors. As we can see in Coolaboro web, their customers believe that services offered by this CEE meet high quality standard.

In its ten years of life, Coolaboro has demonstrated that social entrepreneurship could be at least as successful as ordinary firms. In fact, during this period, Coolaboro has been able to survive (opening its first office during the most difficult years of the economic crisis in Spain).

Its survival is the first index of its success. This is especially so when we analyse the number of firms that disappear before their third year of life in Spain (on average 39.1% disappear) (see Table 1).

In addition, the number of firms that disappeared in their first year of life rose because of the economic crisis. In 2013 this average reached 40% of the start-ups, while 60% did not survive their second year<sup>19</sup>

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<sup>18</sup> INE, Nota de prensa, 9/12/2013, “El empleo de las personas con discapacidad”.

<sup>19</sup> Dirección General de Apoyo a las Pymes, [www.lne.es](http://www.lne.es), available at 20/01/2014.

**Table 1: Firms that disappear during their first three years of life (%)**

	<b>First year</b>	<b>Second year</b>	<b>Third year</b>
2009	20.1		
2008	20.8	13.2	
2007	20.9	14.6	10.1
2006	17.4	15.3	11.3
2005	14.5	12.0	11.8
2004	15.5	9.3	9.3
2003	17.2	10.9	7.4
2002	14.2	10.2	10.3
2001	16.7	9.5	7.7
Average	17.5	11.9	9.7

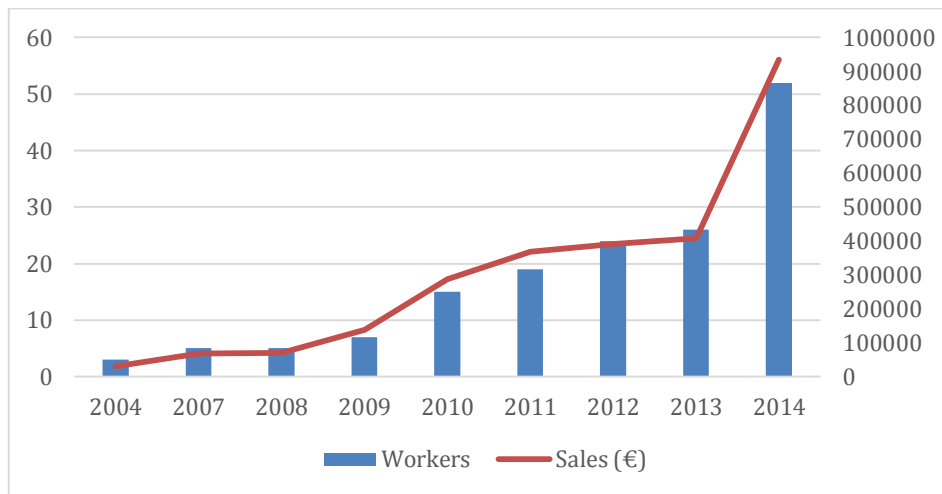
*Source:* Own formulation based on *INE (2010)* [www.ine.es/prensa/np749.pdf](http://www.ine.es/prensa/np749.pdf)

Coolaboro not only has been able to stay in the market but also demonstrate its capability to grow (a\_firm's growth could be the second index to assess CEE's success). In this sense Coolaboro has presented sustained growth since its birth, in terms of workforce as well as in sales, with no bank indebtedness, by means of profit reinvestment (Figure 2). For social entrepreneurs to create social value is not only important, but also creates a business model which is financially stable and, if possible, self-sustaining (Mueller et al., 2013).

They were able to grow during the worst years of crisis in Spain (2008-2010), creating two new positions, increasing sales by 197% and adding a new service to their customers.

During the period 2010-2015, workers' growth was from 15 in 2010 to 52 in 2014, meanwhile sales rose 325%; showing that Coolaboro is able to consolidate its development.

**Figure 2: Workforce and Sales of Coolaboro (2004-2014)**



Source: Own formulation based on the questionnaire information

Furthermore, as we can see in Figure 2, the number of employees has been increased significantly in 2014 and sales have also doubled in the same year, meaning that the year 2014 was crucial for the success of Coolaboro.

In this case study, we also compare our CEE firm, Coolaboro, with two other non-CEE firms, direct competitors because they are in the same sector, in the same area and have similar size. The main figures for these three firms of our case study are the following (see Table 2):

**Table 2. Main figures for the firms**

MAIN FIGURES	2011			2010		
	COOLAB ORO	HELVIA	SOLVE NTIA	COOLABO RO	HELVIA	SOLVEN TIA
Non-current assets	248,604	239,762	758,622	740,754	12,07	13,805
Current assets	154,636	137,144	36,770	15,893	94,665	136,393
Liquid assets	3,172	20,562	4,380	8,712	13,427	56,624
Equity	193,810	135,410	196,990	193,118	63,333	80,200
Non-current liabilities	184,865	206,583	93,709	180,579	0	0
Current liabilities	24,566	34,913	504,693	382,950	43,408	69,998
Working capital	132,779	104,201	-34,386	-34,299	67,969	79,073
No. of employees	19	5	9	15	13	25
Turnovers	368,245	287,786	402,707	391,917	514,821	819,389
Operating results	59,473	93,075	13,234	13,600	-16,566	-119,422
Net income	51,490	80,975	3,872	3,557	-16,867	-120,881
EBITDA	77,521	106,772	36,340	40,562	-9,523	-112,328

Source: Own elaboration from SABI

Analysing table 2, the largest firm is Solventia because it has more assets, mainly, non-current ones. However, Solventia is also the firm with the lowest net income amount and with a reorganized process from 2010 to 2011 because the number of employees decreases from 25 to 9, and half reduction of revenues (around 50%). Thus, this firm has suffered most the negative impact of the economic crisis. Helvia also had an employee reduction process from 2010 to 2011, although its revenue

reduction was less (around 44%). On the contrary, Coolaboro had increased the number of employees from 2010 to 2011 (15 vs. 19). And now Coolaboro has 52 workers. Additionally, its turnover decreased but only by 6%. This is a hint of its growth and financial success, compared with its competitors. In this sense, the impact of the economic crisis could be less for CEE than for non-CEE firms because of its financial support from governmental aids. In this line, the own financing is also another key of Coolaboro's success due to 77% of non-current assets being financed with own resources while this percentage is 56% and 26% for Helvia and Solventia, respectively. Moreover, Solvencia is highly indebtedness in the short term, around 63% of its total assets financed with current liabilities, while this percentage is 9% for Helvia and 6% for Coolaboro. This debt pressure could condition many managers' decisions and even create difficulties in making strategic decisions for the firms (Laverti, 1996).

### 3.2. Methodology

The methodology based on case studies provides the basis of success management theories (Castro, 2010). Qualitative and quantitative data are analysed. This paper has two methodological parts: one empirical, analysing the financial ratios of the CEE chosen, Coolaboro, and the other part more qualitative, through an ad-hoc questionnaire.

#### *3.2. 1. Analysis of financial ratios.*

One of the main uses of accounting is to perform an analysis of the firms' financial statements in order to serve the decision-makings by stakeholders of any business. The analysis of financial statements is based on management of accounting information in order to interpret the past, present and foreseeable situation of the company. There are many definitions of the concept of "analysis of financial statements". Lev et al. (1978, p. 1) considers that "the analysis of financial statements is part of a system or information process, whose mission is to provide data for

decision-making". This allows significant changes in operations, which require a corrective action to be observed.

For this research we used one of the most commonly employed techniques analysis that is analysis of the ratios. There are many ratios that cover short-term analysis as well as long-term, such as the economic and financial structure (Rivero and Rivero, 2000). The literature has studied in depth the valid ratios for analysis and the most accepted include four groups of ratios:

1) The ratios of solvency, that analyse whether a company can face its debts or not. A company can be solvent if it can cope in a short period with short-term debts. As a general rule, it states that: If  $\text{current assets/current liabilities} > 1$ , then  $\text{working capital} > 0$ . It means that a company generates enough cash to pay its debts in the short term. If  $\text{current assets/current liabilities} = 1$ , then  $\text{working capital} = 0$ . It means that the company has temporary instability since if there is any delay in the payment of any right, it cannot meet its debts in the short term. If  $\text{current assets/current liabilities} < 1$ , then  $\text{working capital} < 0$ . It means that the company has instability and cannot pay its debts in the short term with its available current assets. Additionally, the liquidity ratios analyse whether the company has enough money in the short term to meet its payments in relation to its charges. It is also called the "acid-test ratio". It analyses whether with the cash the company has, it can meet its payment obligations in the short term. It removes the solvency ratio heading of "goods", for being the least liquid current asset because a sales process has to be made that is not always possible. Another test of liquidity is the "immediate liquidity" ratio that is different from the previous because it only takes into account the cash assets, the most liquid part of current assets. It examines the possibility of paying their short-term debts with cash available at the time

2) The debt ratios, which determine whether the company has too much debt level depending on its business and its structure. It can be calculated for short and long term. It analyses the proportion of equity in relation to its debts in the short or long term. That is, the relationship between external financing and self-financing owned by the company.

3) The profitability ratios, which determine whether the company generates sufficient resources in terms of its economic or financial resources. They give an indication of the efficiency of the enterprise in the use of capital invested by shareholders and creditors (Lev et al., 1978). It is possible to calculate the economic profitability, financial profitability and shareholder returns. It is considered that the economic profitability is the most used and "measures the efficiency with which employed resources are being used" (Lev et al., 1978, p. 13). It is also referred to as the profitability of the assets. The higher ratio of profitability means that the company is the more efficient and can develop better its principal activity, its social objective. The profitability ratio is always measured in percentages. The purpose of this ratio is to analyse the profitability of a company's assets.

4) Finally, productivity ratios are also interesting to consider when an analysis of firms is taken in labour-intensity industries. The idea is to check the amount of operating revenues, profits, costs and assets per employee because they are average measures of the efficiency of production.

There are many utilities that have ratios for decision-making. In addition to investment decisions, recruitment, need for financing, comparison between companies and/or sectors ... they also have been used for aspects such as company insolvencies (Camacho et al., 2012).

### *3.2.2. Questionnaire*

An ad-hoc questionnaire was designed to achieve in depth information about the CEE of our case study, the firm Coolaboro. The structure of the document was separated into four parts as follows:

1) Business Model: In this section we tried to obtain general information about the origin and evolution of Coolaboro (we asked Mr. Cobo to provide us with the main milestones of his CEE during its ten years of life) and its business model. In order to get in depth information, we asked Mr. Cobo to complete Osterwalder's Canvas model. This tool provides in detail information about nine aspects related with



a business model: value propositions, customer segments, channels, customer relationships, revenue streams, key sources, key activities, key partners and cost structure.

2) Manager's Profile: The objective of this questionnaire part was to discover a manager's degree of professionalization by means of three different indicators: academic and complementary training, professional experience and manager's competencies. Information about training and experience was obtained by means of direct questions. As it is impossible to obtain competencies information in this way, we used the Bosch et al. (2013) model to test 12 competencies by means of valuation of 21 items in a Likert scale. In addition, and in order to avoid respondent bias, this part of the questionnaire was filled in not only by the manager but also by his subordinates.

3) Management Model: Two questions were included in order to analyse which management tools have been implemented. Firstly, one was a check list in which a manager should choose the options that best reflect the CEEs' level of development. In the second one a list of management tools was included (strategic plan, training plan, marketing plan, product and process innovation plan, quality systems...) and the respondent should point out those that had been implemented in Coolaboro.

4) Return to Public Administrations: In this part several data related to the taxes paid and all types of public subsidies received by the CEE were requested to calculate the difference between both flows. By means of this difference, the effectiveness in the use of the public aids received by the centre can be measured.

#### **4. Results and Discussion**

Sheltered Employment Centres cope with a double objective: economic and social. That is why it is necessary to estimate economic indicators and social return indicators in order to analyse their success.

#### 4.1. Results for the ratio analysis (Economic success)

In this section we analyse the financial ratios of three active companies, one of them is a sheltered employment centre, and the other two are companies that have the same business characteristics, such as activity (administration, management, consulting, realization of market research), location (Community of Madrid), number of employees, etc. The CEE is called Coolaboro, which is ten years old and the staff is formed by people with disabilities (70% minimum). The companies that will be compared with Coolaboro are: Solventia with an age of seven years and Hevia Consulting which is twenty years old. Table 3 shows the main ratios of the three selected companies for the years available in the commercial database SABI:

**Table 3. Ratios for years 2011-2010**

		2011			2010		
		COOL AB	HELV IA	SOLVE TIA	COOLA B	HELV IA	SOLVEN TIA
SOLVENC Y RATIOS	Current (CA/CL)	6.29	0.07	2.18	3.93	0.04	1.95
	Liquidity (L/CL)	0.13	0.01	0.31	0.02	0.02	0.81
	Solvency (TA/TL)	1.93	3.29	2.46	1.56	1.34	2.15
DEBT RATIOS	Interest cover ratio	444.82	1.57	-47.032	n.s.	0.998	-80.046
	Long term debt	45.84	11.78	0	54.81	23.87	0
	Short term debt	6.09	63.45	40.67	9.26	50.61	46.60
	Gearing (%)	95.384	47.57	0	153.321	108.38	0
PROFITA BILITY	ROE (%)	26.57	1.97	-26.63	59.8	1.84	-150.52
	ROCE (%)	15.70	4.55	-26.07	27.21	4.83	-148.86
	ROA (%)	14.75	1.66	-15.52	24.69	1.80	-79.51
	Profit margin (%)	16.15	3.29	-3.22	32.34	3.47	-14.75
	Net assets turnover	0.91	0.51	4.82	0.76	0.52	5.46
PRODUC TIVITY	Operating rev. per employee (mil)	33.48	44.74	39.60	57.56	48.99	32.77
	Profit per employee (mil)	5.39	0.54	-1.30	18.61	0.55	-4.83
	Costs of employee/ Operating rev. (%)	0.97	1.38	8.13	0.84	1.05	10.22
	Total assets per employee (Mil)	36.66	88.38	8.21	75.38	94.58	6.00

Source: Database SABI

As Table 3 shows, the ratio of current solvency ratio (CA/CL) is higher for Coolaboro than for its two direct competitors and almost double in the year 2011 comparing with 2010 (6.29 vs. 3.93). It means that this company has enough current assets to pay its current liabilities. Considering the ideal current solvency ratio as 1.5, the company Solventia has also enough current assets to pay its current liabilities. However, Helvia Consulting has almost the same amount of current assets as current liabilities. It means that if this company wants to pay back its current debts and has any liquidity problems with current assets, it cannot do so. Regarding liquidity, any firm has large amounts of cash, although Solventia has the highest ratio (0.31 in 2011 and 0.81 in 2010). The solvency ratio in the long term (total assets/total liabilities) is very different between firms. Helvia Consulting, with the lowest liquidity ratio, is the highest in solvency ratio in 2011, with almost half in 2010. Solventia has the highest solvency ratio in 2010, and more or less the same in 2011 (2.15 vs. 2.46) due to its low level of debt. Coolaboro has more or less the same solvency ratio in both years (1.93 vs. 1.56).

Regarding debt ratios, the strategy of Coolaboro is completely different from the other both because this company has the lowest level of short-term debts whereas the other two have a higher level of short-term debts. It means that Coolaboro could face any contingency better because it does not have to pay back a huge amount of short-term debts. Gearing ratio is a measure of financial leverage, demonstrating the degree to which a firm's activities are funded by owner's funds versus creditor's funds. This is also another disparity for Coolaboro because this firm has the highest gearing ratio, the best financial leverage. Solventia has no long-term debts so its financial leverage is zero.

According to profitability, two ratios are selected to measure the return of shareholders and another for all providers of capital: the return on equity (ROE) and the return on capital employed (ROCE). ROCE for Colabooro, which is a financial ratio that measures a company's profitability and the efficiency with its capital employed, has a very high value (15.705 for 2011 and 27.215 for 2010) compared with the other two non-CEEs companies. This is the strength of this CEE. It indicates that Coolaboro as CEE is a company that has more profits than other companies that do not belong to the social sector. ROE measures a firms' profitability by analysing

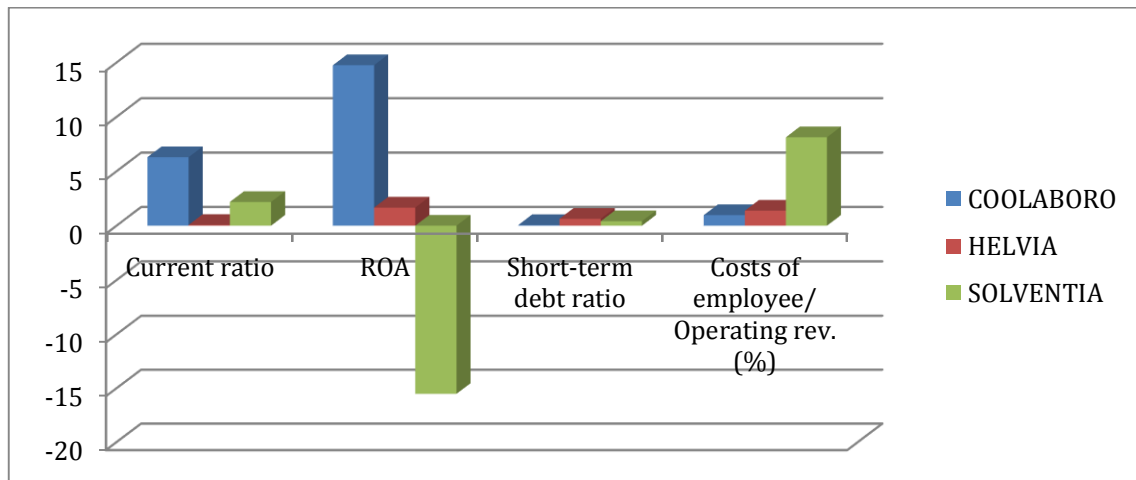
how much profit a firm generates with the money that shareholders have invested and it is the single most important accounting ratio of performance (Brigham and Daves, 2004). Coolaboro has the highest ROE of the three firms although in 2011 it decreased compared to 2010 (26.57 vs. 59.8).

Another important profitability measure is the ratio of return on total assets (ROA) where the other non-CEE companies have less percentage than Coolaboro. ROA is an indicator of how profitable a company is compared with its total assets. Coolaboro has 14.75€ of operating profits for each 100€ of asset investment in 2011 and 24.69 the previous year. However, Helvia has only 1.66€ per each 100€ of assets in 2010 and 1.80 in 2011 although Solventia shows negative profitability due to its losses in both periods. If we disaggregate ROA, two elements have to be considered: profit margin and asset turnovers. Although the asset turnover percentage is higher for Solventia, the other two firms have higher profit margins. It means that the best strategy for a successful CEE is to have a significant gross margin, that is, the difference between the price of services and its costs.

Taking into account the productivity of the companies analysed, Coolaboro has the best ratios related to employees. It has the highest operating revenues and profits per employee and the least cost of employees related to operating revenues. However, Helvia is the firm that has most assets related to employees.

In Figure 3, we can see clearly the important difference of these three companies for the most important financial ratios, one of each part of the analysis: solvency, debt, profitability and productivity.

**Figure 3. Ratio comparison between a CEE and two non-CEE companies**



Source: Own formulation based on the database SABI

Summarising, Coolaboro, the CEE, has the better main ratios than the other two non-social firms, because it has financial independence, its return on assets is the highest, the debt ratio in a short term is the lowest and the productivity per employee is the best.

#### **4.2. Return to Public Administration**

It has been mentioned that in Spain CEEs have access to several public subsidies to support programs for people with disabilities such as grants for creation of CEEs, grants for the maintenance of jobs, etc. This fact can lead to the wrong idea that CEEs do not generate a return for the Public Administration but they only consume resources from the State. As we can see (Table 4), Coolaboro contributes to the State's resources to a greater extent than the received resources. Therefore the balance is positive for the Public Administration. Consequently, encouraging this type of social entrepreneurship not only can contribute to the welfare of disabled people, but it can contribute to the welfare for the society in general due to the fact that it can generate net incomes for the State.

**Table 4. Coolaboro's contribution to the State's resources.**

Inflows for Public Administration: Taxes	169,049
Outflows for Public Administration: Subsidies	(94,627)
<u>Cashflow</u>	<u>74,422</u>

Source: Own elaboration

Definitely, after a literature review on the employment of people with disability we can affirm that the effectiveness of the CEEs as an instrument of labour integration is indisputable, especially for people with disabilities who have more difficulties in finding work, helping to reduce their rates of unemployment and inactivity in society (Cueto et al, 2008; Rodriguez et al, 2009). Also the literature review demonstrates a significant relevance: the people with disability show characteristics such as resistance to monotony, responsibility, thoroughness, commitment to the task, empathy with heads, etc. With necessary support, people with disability have a high professional performance, higher than generally expected (Paredes et al., 2012).

As a matter of fact a study that was conducted by the Association of nonprofit Employment Centers of Navarra (Acemna) has discovered that each euro invested in CEEs returns into society a total of 3.94 euros<sup>20</sup>. So we can say that the creation of employment for people with disabilities has high significance for the economy of a country as well as for people with disability.

### **4.3. Keys to Success**

Parents' associations or foundations are usually the origin of CEE, and sometimes this causes managers of these firms to present a nonprofessional profile. Compared with the process followed in the succession in family businesses in which the

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[http://www.diariodenavarra.es/noticias/dn\\_management/2013/09/26/por\\_cada\\_invertido\\_por\\_administracion\\_los\\_centros\\_especiales\\_empleo\\_retorna\\_sociedad\\_131511\\_2542.html](http://www.diariodenavarra.es/noticias/dn_management/2013/09/26/por_cada_invertido_por_administracion_los_centros_especiales_empleo_retorna_sociedad_131511_2542.html)

professionalization of the business has become a key aspect (Fernández, 2012), a nonprofessional profile in the CEE could restrict the capability of getting profits and/or even limiting their growth.

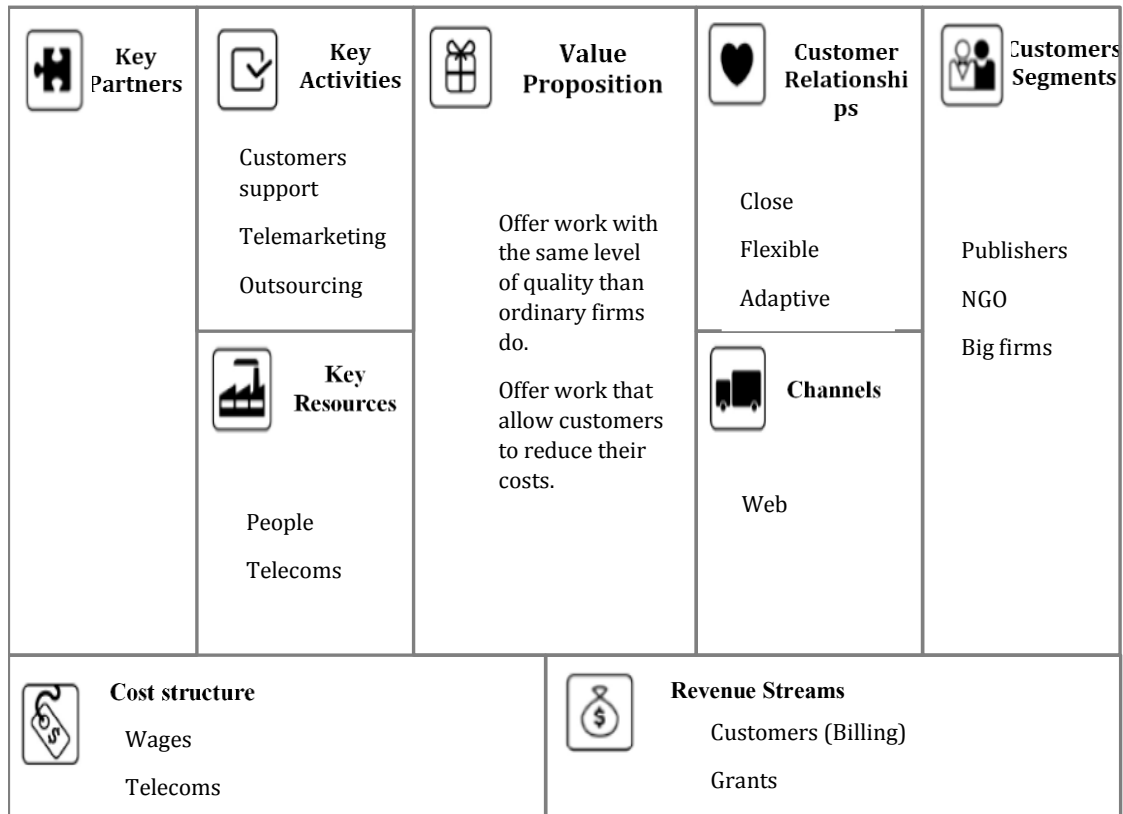
However, the origin of Coolaboro was the personal motivation of his founder to help disability workers. And furthermore Mr. Cobo is a bachelor in Management and MBS, with more than ten years as manager. He is a social entrepreneur with training, experience and competencies desirable to manage a CEE. We think that is one of the keys of Coolaboro's success.

Moreover, Mr. Cobo presents an appropriate degree in all the competencies that we have tested using the Boss et al. (2013) framework of managerial competencies. In this model 21 items have been used to test 12 managerial competencies, grouped in three dimensions: external, interpersonal and personal.

In the external dimension, competencies are oriented toward producing the best economic value for the firm. Belonging to this category are competencies such as: business vision, resource management, negotiation and networking. Results for Mr. Cobo's managerial competencies (Figure 5) show that he demonstrates strength in terms of competencies related to external dimension (4.06 taking into account self and subordinates' evaluation), overall in business vision and resource management. Both of them are critical in order to analyse properly strengths, weakness, threats and opportunities that affect his business.

These competencies are also indirectly detected analysing business model that Mr. Cobo presents in Osterwalder's Canvas Model. As we can see in Figure 4 he presented a complete and coherent business model, in which all the decisions in each segment take into account the way in which they could help to reach value propositions.

**Figure 4. Coolaboro's Business Model**



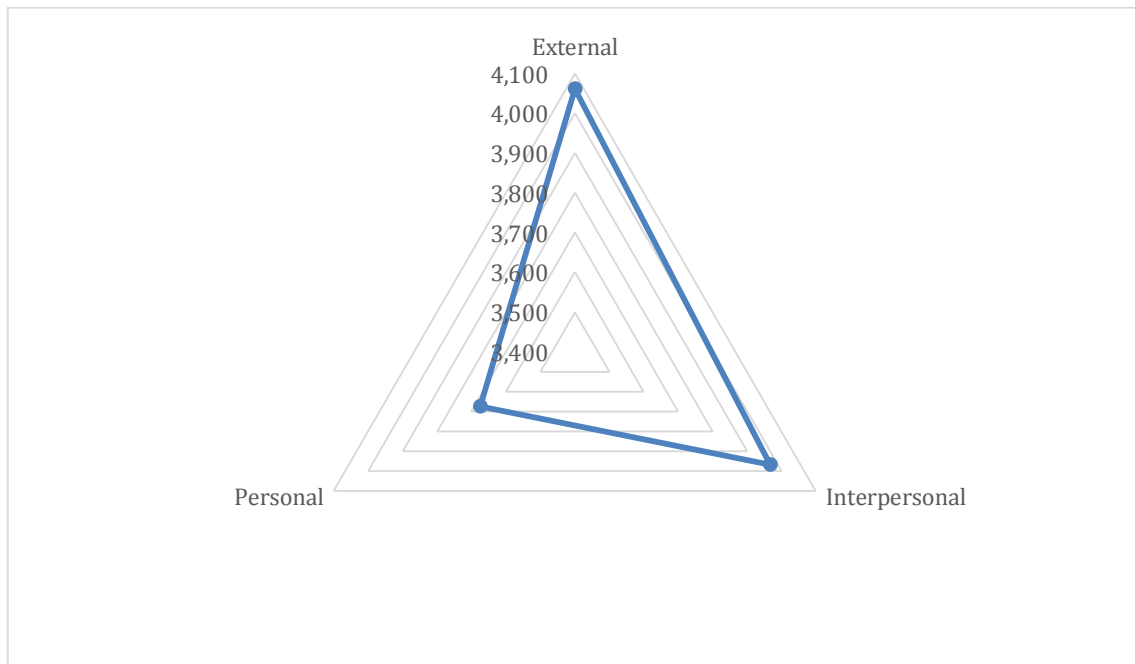
Source: Own elaboration based on Osterwalder's Canvas Model and questionnaire

Integrity, communication, delegation and kindness belong to interpersonal dimension and are competencies oriented toward building effective relationships within the organization. In this dimension (3.96 total score) the main strength is observed in communication, demonstrating that our manager is able to expound ideas in an organized manner and to assert his opinions in a convincing way. In line with this Cobo's strength, the ability of establishing and managing complex relationships with multiple stakeholders has been briefly mentioned by researchers on social entrepreneurs' competencies as one of the most important (Mueller et al., 2013, p. 323).

Personal competencies (inspiration, initiative, humility and discipline) are oriented toward developing leadership and professionalism, and being an exemplary manager. Discipline is the competence best valued in this dimension.



**Figure 5. Managerial Competency Dimensions**



Source: Own elaboration.

In addition, social firms need, as well as ordinary ones, an accurate management model to guarantee their survival and growth. Melian et al. (2011) noticed that only 61% of the firms surveyed had strategic plans, identifying this as one of the main handicaps to reaching their targets. That indicates that many managers run their business thinking in the short-term. When a firm is growing, instinctive management systems (maybe useful in their first stages) must be replaced by more formal ones, and especially a strategic plan should be designed in order to obtain accurate identification of long term objectives, policies and actions. In this sense, Coolaboro has established strategic plans and training programs as main tools in its management system.

When we asked Mr. Cobo about Coolaboro's level of development, he selected the last stage in firms' development model proposed by Leach (1993). This stage is the one in which the firm is maturing and focuses on formalizing permanent activities, identifying at the same time new opportunities to guarantee growth. Once again, this CEE demonstrates a good level of coherence between its stage of life cycle and its strategic model.

## 5. Practical Lessons

Nowadays, the resurgence of the social entrepreneurship is a consequence of the renovation of the spirit of people that consider relieving social problems is their responsibility (Olsen, 2004). A social entrepreneur's main objective is to look for solutions to social problems and its implementation.

The main challenge that social enterprises have to face is to stay in the market, especially with the current economic crisis. The following ideas are suggestions that we can implement in order to run a CEE successfully, namely:

- 1) CEEs are profitable firms if they are running in a professional way. In the case of Coolaboro, its main strengths are a solid financial situation with high solvency ratios, a good financial leverage and low level of short-term debts. Profits of Coolaboro have been reinvested in the firm as equity in order to invest in their growth. It does not depend on any bank. The CEE analysed has high levels of return on assets and a significant high gross margin. According to the employee ratios, this company have been used the official subsidies for promoting disabled employees to get an advantage in its cost structure. There is a trade-off between possible workers' inefficiency and their lower labour costs.
- 2) There is a positive return for the Public Administration with CEE because they give more than they really receive. This means that the creation of employment for people with disabilities is highly significant for society in general, for the economy as well as for people with disability.
- 3) Also undoubtedly, these business tactics that are carried on by analysed CEEs have the potential to increase overall social well-being and the creation of value for the company.
- 4) External and internal managerial competences are part of the success of the CEE analysed, apart from the established strategic plans and training programs as main tools in its management system. Professionalization is essential for its survival in the market and for its sustained growth.

5) Another factor that has important value for the company success is manager discipline with work, along with inspiration, initiative and humility.

In summary, we present a business case study of a social firm, a CEE, with economic success based on professionalization, good financial health and high external and internal managerial competences. We can learn from this case the viability of social firms, with a high impact on the life of disabled people as well as society due to their social responsibility. We believe that increase of this type of companies with strength management can solve existing problems about employment of people with disability and give visibility to social firms as a success business.

Related to future research in this topic, it has been previously mentioned that the critical distinction between commercial entrepreneurship and social entrepreneurship lies in the value proposition itself. For a social business, the maintenance of the social value would also imply the sustainability of the organization and its services including the financial point of view. Consequently both values, economic and social, would be obtained in a social business. In the paper we have compared a social business, specifically a sheltered employment centre, with two commercial enterprises. Therefore, the majority of the results have been obtained from the economic point of view, without taking into account the social results. In fact, the success of the three firms has been measured taking into account the values for the solvency, debt and profitability ratios. Nevertheless, Coolaboro creates not only an economic value, but a social one too. The problem is that this social value is not reflected in the Financial Statements. The fact that this social value does not appear together with the economic one makes it an incomplete description of social business in general and of Coolaboro in particular. Nowadays, methods for evaluating the social impact of a project are being developed. For instance, the Social Return of Investment (SROI) method represents a great advance in this direction. This method tries to analyse, contextualise and quantify the impact of the activity of a firm in society (Narrillos, 2012). Therefore, one of our future research lines will be to go more deeply into this important topic trying to present the economic and social results together when studying social enterprises.

This paper is not without limitations. One of the key variables for the social enterprises is the calculation of the return to the Public Administration. This return

could be considered a measure of the efficiency in the use of the public aids received by sheltered employment centres. In our paper, this return has been calculated taking into account the cash inflows and outflows. But there are other inflows and outflows that do not involve cash movements such as the savings in pensions, etc. It has been impossible to get this information that would increase the accuracy in the calculation of this return.

During the exposition, it has been highlighted that the managerial skills have been crucial for the creation of value for the company. The creation of value has been measured using profitability ratios as indicators of the efficiency of a firm in the use of capital invested by shareholders and creditors. Another good measure of the management and creation of the value in a company is the so-called EVA, Economic Value Added. EVA considers the productivity of all factors used in a company's activity, and, therefore, is an indicator of value creation insofar as the return generated is greater than the shareholder opportunity cost (Camacho-Miñano, et al. 2012). Nevertheless, the financial information in SABI does not allow us to calculate the EVA accurately. Finally, as Mueller et al (2013, 306) affirms: "an ability to create social value, quantitatively measure it and report it to all key stakeholders, and in particular to financiers, is a critical skill for social entrepreneurs". Accordingly, more empirical evidence is necessary to identify social entrepreneurial skills, distinguishing for these required for commercial entrepreneurs.

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## Conclusiones finales

Después de haber efectuado un análisis detallado desde una perspectiva económica y académica de los CEE, su efectividad como instrumento de integración laboral es indiscutible, sobre todo, para aquellas personas con discapacidad que presentan más dificultades de inserción laboral, contribuyendo a reducir sus índices de paro, y facilitando su integración en la sociedad (Cueto et al. 2008; Rodríguez et al, 2009; Calderón y Calderón, 2012). Para lograr el objetivo de integrar en el mercado de trabajo a un número cada vez mayor de personas con discapacidad, es imprescindible apoyar las iniciativas empresariales que tengan como objetivo colaborar en la creación de empleo para personas con discapacidad. Este tipo de iniciativas empresariales deben compaginar su viabilidad económica con la adecuación de sus objetivos sociales de creación de empleo y de mejora de las condiciones de trabajo y vida de sus trabajadores. Aunque hay que reconocer que en la última década se han llevado a cabo cambios positivos hacia la integración de las personas con discapacidad, es necesario seguir avanzando para que los principios de solidaridad, cooperación y compromiso cívico sean los que rijan la sociedad, dándoles visibilidad social, política y económica.

Comparado con otras propuestas, los CEE son el principal medio de integración laboral de las personas con discapacidad en España. De hecho, se les sigue reconociendo como tales, aunque traten de reforzar su función de puente hacia el empleo ordinario, para lo que fueron creados (Manzano y Redondo, 2014). Sin embargo, hay que admitir que podrían servir como empleo estable para los trabajadores que debido a su discapacidad y dependencia tengan dificultades para entrar en el mercado ordinario, y como camino de vuelta cuando un trabajador no se adapte al empleo ordinario (Cueto et al., 2008). Un estudio llevado a cabo en el año 2013 demostró que los trabajadores consultados de los CEE procedían de una situación de desempleo antes de su entrada en ellos (KPMG, 2014). Este hecho supone que los CEE son las empresas que pueden reducir la tasa de paro de las personas con discapacidad, además de tener un impacto positivo en los sistemas sociales (menores facturas sanitarias, mayor capacidad de gasto, menor riesgo de exclusión social, etc...). La creación de un puesto de trabajo en los CEEs supone un



ahorro público en protección social, ya que convierte a los posibles perceptores de servicios sociales en trabajadores y contribuyentes (Manzano y Redondo, 2014). Además, reembolsan 1,44 euros por cada euro que reciben de la administración pública (KPMG, 2014).

Aunque existan estudios sobre diferentes aspectos de los CEEs, la revisión de la literatura efectuada ha puesto de manifiesto la escasez de estudios económicos sobre estas empresas lucrativas, que tienen una especial relevancia en la sociedad por integrar laboral y socialmente a personas discapacitadas. Por el interés sobre los CEEs y por el papel que tienen para la sociedad y para la economía del país, nuestro estudio se centró en el análisis de su viabilidad económico-financiera y su relación con variables tales como: la profesionalización del equipo directivo, las ayudas públicas, localización, tamaño, sector de actividad, solvencia y otros ratios económico-financieros recogidos dentro de los estados financieros de estas empresas.

La principal conclusión de este estudio demuestra empíricamente que, a pesar de las afirmaciones realizadas de manera teórica, los CEEs, por término medio, son empresas productivas ya que su rentabilidad no depende de las ayudas públicas concedidas. A pesar de esto, debe tenerse en cuenta que la dependencia de los discapacitados exige medidas de apoyo a los CEEs, aunque sean empresas productivas, tales como la inserción laboral inicial y el apoyo al gran dependiente en el puesto de trabajo. Además se ha constatado que la crisis económica del país ha tenido un efecto en la rentabilidad de los CEEs, aunque su solvencia no está en peligro. Los resultados obtenidos sobre profesionalización en este tipo de entidades, muestran que los CEEs dirigidos por profesionales presentan un mayor nivel de rendimientos, relacionándose positivamente la profesionalización con un alto nivel de solvencia y con un bajo nivel de endeudamiento.

Seguidamente se presentan las conclusiones principales para cada capítulo.

**Primer capítulo.** La revisión de la literatura pone de manifiesto que hay pocos estudios que analicen la estructura económico-financiera de los CEEs. Al mismo tiempo se revela que hay una gran dificultad para acceder a los datos de estas empresas. Salvo en la Comunidad de Madrid, la información pública recogida en internet está sesgada o no existe. El análisis descriptivo de estas empresas revela que

los CEEs en España están situados principalmente en cuatro comunidades autónomas: Andalucía, Cataluña, Madrid y Castilla y León. Así mismo, en la mayoría de los casos, se trata de empresas que son sociedades limitadas y centradas en la prestación de servicios.

**Segundo capítulo.** La principal contribución de este capítulo es que los ratios de deudas sobre ventas netas, la rentabilidad económica y el test ácido sirven para predecir qué CEEs sobrevivirán y cuáles tendrán más dificultades para mantenerse en el mercado. Además, la metodología de Inteligencia Artificial utilizada aporta un enfoque distinto al tradicional que utiliza técnicas estadísticas.

**Tercer capítulo.** Los análisis realizados muestran que, a pesar de las afirmaciones realizadas teóricamente, los CEEs son empresas rentables sin subvenciones públicas. Eso significa que los CEEs pueden ser empresas rentables por sus actividades empresariales y no dependen de dichas ayudas. A través del algoritmo PART se han obtenido las variables clave para analizar la rentabilidad de estas empresas. El ratio de cobertura de intereses, la cuantía de los fondos propios y el ratio de caja sobre ventas netas son las tres principales variables para obtener una rentabilidad positiva en los CEEs.

**Cuarto capítulo.** Los resultados de la regresión muestran que la crisis económica del año 2008 ha tenido impacto en la rentabilidad de los CEEs. Además la variable localización condiciona la rentabilidad de los CEEs. Eso se debe a que cada comunidad autónoma tiene diferentes políticas para los CEEs y unas legislaciones favorecen más su creación y desarrollo mediante planes de apoyo especiales, frente a otras comunidades. Además, los resultados han evidenciado que la solvencia de los CEEs no está en riesgo, especialmente a corto plazo, y las variables liquidez y ventas por empleado son determinantes para su rentabilidad.

**Quinto capítulo.** Los resultados revelan que las empresas con un nivel alto de profesionalización tienen una rentabilidad económica media más alta que las empresas con un nivel medio y bajo de profesionalización, aunque la diferencia no es muy alta. Pero analizando otras variables, como la solvencia y el endeudamiento, se observa que un alto nivel de profesionalización del equipo directivo está relacionado con una elevada solvencia y un bajo nivel de endeudamiento. En el caso de empresas

con un bajo nivel de profesionalización esta situación es opuesta. Este estudio es una importante contribución para la literatura académica, ya que se trata del primero en analizar la profesionalización de los CEEs.

**Sexto capítulo.** Los resultados de este capítulo manifiestan que el caso del CEE analizado presenta un nivel muy alto de solvencia y un bajo nivel de endeudamiento a corto plazo comparado con las otras dos empresas analizadas que no son CEEs. La principal fortaleza del CEE estudiado es el alto nivel de profesionalización de su gerente y fundador, que además ha reinvertido las ganancias obtenidas durante años en el crecimiento de la empresa. Dicho gerente es un emprendedor social con formación, experiencia y competencias deseables para gestionar una empresa que tiene como fin promocionar la integración laboral de las empresas con discapacidad y, al mismo tiempo, ser una empresa rentable. Por tanto, se llega a la conclusión de que los CEEs son empresas rentables si están gestionadas de manera profesional.

## **Final Conclusions**

In summary, we can say that the effectiveness of the CEEs as instrument of labour integration is unquestionable, especially for those people who have more difficulties of labour insertion. The CEEs serve to reduce unemployment and stimulate the social integration of people with disability (Cueto et al. 2008; Rodríguez et al, 2009; Calderón and Calderón, 2012). To achieve the goal of integration in the labour market of a greater number of persons with disability, it is essential to support the managerial initiatives that aim to the creation of workplaces for people with disability. Such business initiatives must combine the economic viability of the companies with their social objectives such as: creation of employment and improving the living and working conditions of their workers. Although it is necessary to recognize that in the last decade positive changes have been carried out towards the integration of the persons with disability, but it is necessary to advance more and to give social, political and economic visibility to these type of special centers.

Comparing with other organisms, the CEEs are the main way of labour integration for people with disability in Spain. In fact, this contribution of the CEEs has been recognized, but their function is to serve people with disability as a bridge towards the ordinary employment, for what they were created (Manzano and Redondo, 2014). However, they could serve as stable employment for workers who have difficulty in entering in the ordinary market. In addition, they are also an option for people with disability as a way back to the protected market when a worker does not fit in the regular employment (Cueto et al., 2008). A study carried out by KPMG (2014) has shown that people who worked in CEEs were coming from a situation of unemployment. This fact implies that the CEEs are the companies that can reduce the unemployment rate of people with disability. In addition CEEs have a positive impact in the social systems (fewer sanitary invoices, greater capacity of expense, less risk of social exclusion, etc ...). The creation of job in CEEs is related with a public saving in social protection (Manzano and Redondo, 2014). In addition, this type of entities refunds 1.44 euros for every euro that they receive from the public administration (KPMG, 2014).

Although there are studies on different aspects of the CEEs, the review of the literature has shown that there are just a few economic and financial studies about this type of enterprises, which have a special importance for society. Due to the interest on that CEEs have for society and for the economy of the country, our study was focused on the analysis of their economic and financial viability and its relationship with variables such as: the management professionalization of the CEEs, public subsidies, location, size, sector of activity, solvency and economic and financial ratios obtained using the balance sheet of these companies.

The principal conclusion of this research has been to show empirically that, in spite of the theoretical statements, CEEs, on average, are productive companies since their profitability does not depend on the public subsidies received for the labour integration of people with disability. Despite this, it should take into account that the dependency of disabled persons requires support for CEEs, even if they are productive enterprises, such as for the initial job placement and for people with high dependency. It has also been found that the economic crisis has had a negative effect on the profitability of the CEEs, but their risk of insolvency is low. Results have shown that the CEEs managed by a professional team of managers have more profitability than the ones with a lower one. In addition, a high level of professionalization is related with a high level of solvency and a low rate of indebtedness.

Next the main conclusions are presented for each chapter.

**First chapter.** The main conclusions of this chapter are that there is little economic and financial research about these companies and that most CEEs are small, dedicated to provide services, limited liability companies and located in the regions of Andalusia, Castilla and León, Catalonia and Madrid. In relation to the ratios, on average, the CEEs show a low profitability and a high level of short term indebtedness, although their solvency is guaranteed.

**Second chapter.** The main contribution of this study is that we can know which CEEs will survive taking into account the ratios of debts over net sales, return on assets, and quick ratio and which ones will have more difficulties to stay in the

market. Moreover, the artificial intelligence methodology used is a new approach compared to traditional statistical techniques.

**Third chapter.** The main result of this chapter provides evidence that sheltered employment centers, on average, are productive enterprises whose profitability is not conditioned by public aid granted. Additionally, we run PART algorithm to obtain the key variables to analyse the profitability of these centers. Only three variables are necessary to classify the sheltered employment centers as profitable or not: the interest coverage ratio, the equity amount and the ratio cash flow to sales. The main conclusion is that public subsidies do not condition the profitability of sheltered employment centers and these firms are socially responsible business because they are part of the social and labour integration of disabled people.

**Fourth chapter.** The results of regression have shown that 2008 economic crises has conditioned the viability of CEEs in Spain as many others firms at the market. Other contribution of this chapter is that industry and localization together with the liquidity ratio and the average sales per employee are determining factors for the future viability of CEEs in Spain. This study helps to shed light on the future viability of this kind of firms as well as its social visibility.

**Fifth chapter.** The results have shown that companies with the highest level of manager professionalization, on average, have higher economic returns than companies with medium and low rate of professionalization, although the difference is not very high. But studying other variables, such as solvency and the level of indebtedness, it is observed that a high level professionalization of the management team is associated with a high solvency and a low level of indebtedness. In the case of companies with a low level of manager professionalization is quite the contrary. This study is an important contribution to the academic literature as it is the first that examines the manager professionalization of CEEs.

**Sixth chapter.** The results of this chapter show that the evaluated CEE has a very high level of solvency and a low level of short-term debt compared to the other two companies that are not CEE. The main strength for this CEE is the high level of professionalization of its manager and founder, who has reinvested the profits over the years in the growth of the company. The CEE analysed has high levels of return

on assets and a significant high gross margin. According to the employee ratios, this company has been using the official subsidies for promoting disabled employees to get an advantage in its cost structure. The main conclusion for this chapter is that professionalization is essential for the survival of the CEEs in the market and for their sustained growth.

### **Futuras líneas de investigación:**

En primer lugar, se hacen necesarias nuevas investigaciones, ampliando la muestra, el período objeto de estudio y las variables utilizadas para seguir profundizando en el análisis económico-financiero de esta realidad empresarial. Una vez analizados los ratios económicos y financieros básicos de estas empresas, se podrían incluso proponer líneas futuras de mejora en su gestión.

En segundo lugar, se podría comparar una muestra de CEE con otra pareada de empresas que no son CEE, con la finalidad de analizar las posibles diferencias/similitudes desde un enfoque económico-financiero entre ambos tipos de empresas.

En tercer lugar, también se podría ampliar el estudio de campo realizado, con la visita y examen detallado de otros CEE.

En cuarto lugar, otra posible línea de investigación sería poder extender este estudio a nivel europeo, con la idea de analizar diferencias y similitudes entre los CEE españoles y otras formas de integración laboral para personas con discapacidad fuera de nuestras fronteras.

Y aunque no ha sido objeto de estudio de esta tesis, otra futura línea de trabajo es la constatación empírica de que este tipo de empresas tiene escaso impacto a nivel de contenidos en los planes de estudio de las universidades españolas. El hecho de que se conozca por los futuros gestores de empresas, puede hacer aumentar su número en el futuro y conseguir una mayor responsabilidad social empresarial en otras empresas.

Finalmente, señalar que nuestro estudio no está exento de limitaciones. En líneas generales, no se ha podido acceder al 100% de los estados financieros de la muestra nacional de CEE, ya que dichos datos no estaban disponibles en la base de datos de empresas utilizada. Además, la tasa de respuesta a los cuestionarios enviados a los gestores de los CEE ha sido baja, lo que supone un hándicap a la hora de generalizar nuestros resultados sobre profesionalización. Tampoco ha sido posible el estudio pormenorizado de más CEEs, con más visitas presenciales y entrevistas a gestores de



CEE. Esperamos que todo ello pueda ser subsanado en futuros trabajos de investigación.

### **Future research lines:**

In the first place, it is necessary to conduct the new researches with an expanding sample, the period object of study and the variables used to keep studying in depth the economic and financial aspects of this type of companies. Once analyzed the basic economic and financial ratios of these companies, future lines for their better management could be proposed.

In the second place, there might be compared a sample of CEEs with other non-CEEs companies, in order to analyze the possible differences / similarities from an economic and financial approach between both types of companies.

In the third place, there could also be extended the number of study cases, with the visit and detailed examination of other CEEs.

In the fourth place, another possible line of investigation would be able to extend this study to the European level, with the idea of analyzing differences and similarities between the Spanish CEEs and other forms of integration in the labour market for people with disabilities outside of Spain.

Although it has not been an object of this study, another future line of work will be the empirical observation of these types of companies and the scarce impacts in the plans of study of the Spanish universities.

Finally, to point out that our study is not an exempt from limitations. In general, it was not possible to have access to the whole of the financial statements of the national sample of CEEs, since the data for all CEEs was not available in the database used for this research. Also, the response rate to the questionnaires sent to managers of CEE has been low, which is a handicap when generalizing our results on professionalization. Neither has it been possible to study in-depth of more CEEs with more interviews and on-site visits to CEEs managers. We hope that all can be rectified in future research works.

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## **Legislación consultada**

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Real Decreto 2273/1985, de 4 de diciembre, por el que se aprueba el Reglamento de los Centros Especiales de Empleo definidos en el artículo 42 de la Ley 13/1982, de 7 de abril, de integración social del minusválido. (BOE 294, de 9 de diciembre de 1985).

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Estrategia Española sobre discapacidad 2012-2020. Ministerio de Sanidad, Política Social e Igualdad.

## **Curriculum vitae<sup>21</sup>**

### **Education:**

**2013/2017.-** Complutense University of Madrid, Business Administration Faculty, Business Administration and Management, Ph.D. student. Field: Accounting;

**2012/2013.-** Complutense University of Madrid, Business Administration Faculty, Master of Research in Business Management, Marketing and Accounting;

**2007/2009.-** Tbilisi Humanitarian University, Business and Management Faculty, Master of Business and Management;

**2002/2006.-** Georgia State Agriculture University, Economic – Humanitarian Faculty, Bachelor of Soil Resources Management;

### **Courses and Trainings:**

**04-07/2016.-** Statistical Analysis of Financial Data. University of Cologne.

**04-07/2016.-** Statistical Analysis of large data set. University of Cologne.

**04-07/2016.-** Research Logic and Research Design. University of Cologne.

**09/2015.-** Ill Tenerife Economics and International Finance Summer School (TEIFSS), University of La Laguna, Tenerife.

### **Work Experience:**

**2016/2017.-** Lecturer, King Juan Carlos University, Spain.

-Financial Accounting I and II (English)

-Financial Management I (English)

-Financial Accounting II (Spanish)

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**2015/2016.-** Erasmus scholarship, University of Cologne, Germany.

**11-12/2014.-** Visiting researcher, Trinity College of Dublin, Ireland.

**2013/2014.-** Logistics manager, Siemens, S.A. Madrid.

**Language skills:**

Georgian – Native;

Spanish – Advance;

English – Advance;

German – Intermediate;

**Computer skills:**

Windows, MS office (word, excel, power point, outlook), Internet, E-mail, SPSS, STATA, SAP.

**Research projects:**

Educational Innovation Project. Title: Self-Study Introduction Course of Financial Mathematics with Excel. Director: María Jesús Segovia Vargas. Complutense University of Madrid.

INIFCO-UCM. Title: Financial Information Research and Bankruptcy. Director: María del Mar Camacho-Miñano. Complutense University of Madrid.

**Papers and Researchs in progress:**<sup>22</sup>

**2017.-** Gelashvili, V. and Camacho Miñano, M.M. Conditioning factors on the profitability of Sheltered Employment Centers. In Review.

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**2015.-** Gelashvili, V., Segovia, M.J. and Camacho Miñano, M.M. “The profitability of socially responsible companies: Public subsidies for Sheltered Employment Centers”. Ramon Llull journal of applied ethics. Nº 6, pp. 111-123. Published.

**2015.-** Gelashvili, V., Segovia, M.J. and Camacho Miñano, M.M. “Survival patterns for managing Sheltered Employment Centers”. Revista de Estudios Empresariales. Segunda época. Nº 1, pp. 109 – 126. Published.

**2013/2017.-** Ph.D Thesis: “The Economic and Financial Viability of Sheltered Employment Centers.” To defend in Juny 2017.

### **Presentations:**

**06/2017.-** Complutense University of Madrid and King Juan Carlos University. Asociación Científica de Economía y Dirección de la Empresa (ACEDE). “Economic and Financial Viability of Sheltered Employment Centers through their managers: Is their level of professionalization an explanatory variable of their profitability? ”.

**06/2017.-** Queen's University Belfast. 11th Workshop on the challenges of managing the third sector. "Economic and Financial Viability of a Particular Case of Social Firms: Sheltered Employment Centers".

**06/2017.-** University of Exeter. XII Workshop on Empirical Research in Financial Accounting. "Economic and Financial Viability of a Particular Case of Social Firms: Sheltered Employment Centers".

**06/2016.-** University of the Basque Country. The Spanish Association of University Professors in Accounting (ASEPUC). "Economic and Financial Viability of Sheltered Employment Centers".

**12/2015.-** University of Cologne. Research Colloquium on Business Ethics and Personnel Economics. "The Economic and Financial Viability of Sheltered Employment Centers".

**03/2015.-** University of Granada. I National Congress on employment of people with disabilities. "Factors that determine the economic profitability of Sheltered Employment Centers."

**02/2015.-** IE Business School XX Workshop on Accounting and Management control "Memorial Raymond Konopka". "The Economic and Financial Viability of Sheltered Employment Centers".

**12/2014.-** Trinity College of Dublin. Research seminar "Being a Visiting Ph.D. Student in TCD: Students and Supervisor's Perspective".

**12/2014.-** Trinity College of Dublin. Research seminar, International Business and Finance. "The economic and financial viability of Sheltered Employment Centers".

**11/2014.-** ONCE Foundation. Madrid. International Congress: University and disability. "Employment and Disability: Particular case of Sheltered Employment Centers".

**10/2014.-** University of Malaga. XXVIII International Congress of economy applied ASEPELT 2014. "Factors that determine the profitability of the socially responsible

companies: particular case of Sheltered Employment Centers.”

**06/2014.-** Ramon Llull University. Annual Congress of European Business Ethics Network (EBEN)-Spain Ethics, Emotions and Economics: Current management of the organizations. “Impact of public subsidies on profitability of social responsibility firms: Particular case of Sheltered Employment Centers.”

**11/2013.-** King Juan Carlos University. The National Congress Present and Future of the care of dependent persons. “Impact of public subsidies on the profitability of Sheltered Employment Centers.”

**09/2013.-** Complutense University of Madrid. Master Thesis: “Economic and Financial Analysis of Sheltered Employment Centers: Impact of public subsidies in their profitability.”